



CITY OF LIVERPOOL.

REPORT

ON THE

HEALTH OF LIVERPOOL

DURING

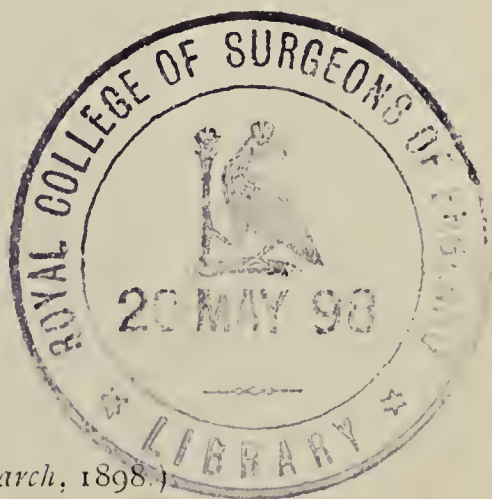


1897.



BY

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*Medical Officer of Health.*



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*(Ordered by the Health Committee to be printed, 24th March, 1898.)*

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LIVERPOOL:

J. R. WILLIAMS & Co., 8 SCHOOL LANE.  
1898.



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WEST DERBY

38.3  
22.9  
189  
117.8

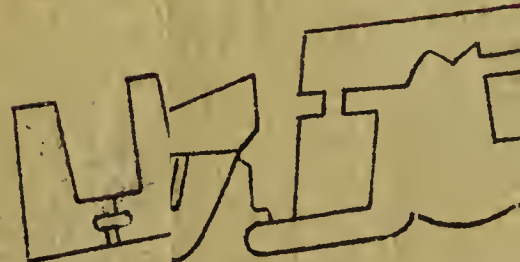
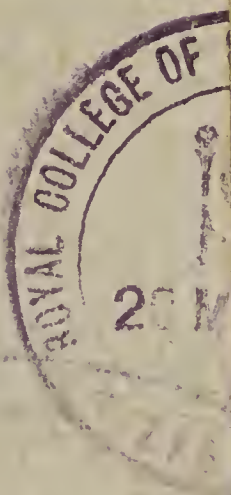
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GREA  
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ABERCROM.  
34.6  
24.6  
146  
73.3



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# CITY OF LIVERPOOL

Diagram showing Birth Rate (blue) ... } per 1000  
 " " Death Rate (black)... } of the  
 " " Number of Deaths of Infants under one year } estimated  
 " " out of every 1000 born (green) ex ... } Population.  
 " " estimated Population per acre, including }  
 " " Docks, Quays, &c. (red) ... } City during 1897.

in each of the  
Districts of the  
City during 1897.

WEST DERBY (RURAL)

25.0  
17.0  
184  
13.2

WAVERTREE

28.6  
16.4  
171  
8.6

WALTON

26.5  
12.9  
153  
30.7

WEST DERBY

38.3  
22.9  
189  
117.8

TOXTETH (RURAL)

19.6  
10.2  
144  
25.1

EVERTON

40.1  
25.9  
210  
159.7

TOXTETH

33.0  
22.9  
209  
123.4

EXCHANGE COMPRISES—

VAUXHALL WARD.  
EXCHANGE ..  
ST. ANNE'S ..

ABERCROMBY COMPRISES—

CASTLE STREET WARD.  
ST. PETER'S ..  
GREAT GEORGE ..  
ABERCROMBY ..

KIRKDALE

35.5  
22.1  
193  
96.7

ABERCROMBY

34.6  
24.6  
146  
73.3

SCOTLAND

46.9  
37.7  
242  
115.5

EXCHANGE

36.8  
39.8  
282  
79.5

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A.—Table of General Mortality.

B.—Table of Population, Births and Infectious Sickness.

Diagram illustrating Death Rate since 1861.

C.—Table of Deaths registered in the City.

Map indicating Districts referred to in Report.





## PREFACE.

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In the account now submitted of the proceedings of the Health Department during 1897, it will be seen that there was an apparent rise in the rate of mortality during the year of 1·5 per thousand over the preceding year. It would be contrary to experience to expect an uninterrupted improvement in the rate of mortality, and 23·4 is by no means excessive. There are, however, grounds for believing that the population of the City is under-estimated, and if this is so, as no doubt it is, the actual rate of mortality is well below the figure given (pp. 3-8). Most probably the under-estimate is greatest in Exchange and Scotland Districts; the population of Walton on the other hand may be somewhat over-estimated. The sanitary progress of the City may be gauged by the rate of mortality and the causes of death year by year. The first of these is indicated over a period of 36 years by the chart at the end of the report. If it is desired to put into comparison the death-rate of one city with that of another, care must be taken that the conditions are comparable, and that the age and sex distribution correspond (pp. 9 and 10).

With regard to the causes of death, intemperance and its direct consequences are more prominent than might be desired (pp. 21, 22).

Zymotic disease (p. 23) shews a very gratifying decline in almost all its forms, a striking exception, however, being in the case of zymotic diarrhœa, some of the causes of which are plainly indicated but difficult to remove (pp. 40-43).

Smallpox (pp. 23, 26) has been practically absent.

The conclusions of the Royal Commission upon Vaccination are deserving of careful consideration (pp. 26-28), since, until they are carefully studied, the recommendations of the Royal Commission appear to be at variance with their conclusions.

With the decline in zymotic disease is also to be noticed the continued decline in tubercular disease (p. 50).

With regard to the administrative work (p. 58 and following), it will be noticed that the applications for assistance from the general public have again been in excess of the preceding year. Many of these complaints involve the service of notices upon the owners of property, some of whom, in the capacity of members of the Liverpool Land and Houseowners' Association, waited upon the Health Committee in respect to this subject (pp. 60-63).

With regard to unsound meat (p. 70 and following), and the condemnation of carcasses for tuberculosis, the Medical Officer has not had occasion to depart from the practice established a few years ago. Considerable attention has been devoted to tuberculosis and milk (p. 83), and some important investigations have been carried out under the instructions of the Committee.

Proceedings under the Food and Drugs Act (p. 96), have been followed by useful results, and bacteriological methods have been applied to the examination of foods.

The work of the Female Sanitary Staff (pp. 107-8), has been satisfactory, and attended with useful results.

Overcrowding in connection with the common lodging-houses and sub-let houses (p. 109-114) has been kept well under control.

The work of the Ambulance and Disinfecting Staff (pp. 117-119) has been carried out in a satisfactory manner, and the arrangements made as to compensating persons whose infected clothing, &c., was so dilapidated as to require to be destroyed, have worked well. Books from lending libraries, found in infected houses, have been destroyed, compensation being paid for them, or in certain instances they have been disinfected. In three instances it became necessary to prosecute persons for gross carelessness in exposing infected persons or things.

Steps have been taken to remedy the discreditable and neglected condition of the City Burial Grounds and Graveyards (p. 121).

Efforts have been made to improve the system of scavenging and cleansing ; the magnitude of the operations necessarily renders improvement slow, and efforts in this direction are under the disadvantage peculiar to sanitary measures, viz., the more successful they are the less apparent is the need for them (pp. 124-139).

The demolition of insanitary property has proceeded somewhat slowly (pp. 142-165). This no doubt is owing to the numerous interests involved in many of the properties, and the absence abroad of owners. Delays consequently arise in arriving at agreements with the owners for the purchase of the property. These difficulties appear to have been somewhat accentuated in regard to the property included in the 14th presentment. The beneficial results of the action of the Insanitary Property Committee, so far as it has gone, cannot be more strongly emphasized than by an inspection of the areas dealt with by the Committee.

Most important work has been effected by the City Hospitals, notwithstanding that the extent of accommodation which they provide is totally inadequate to the requirements of the City (pp. 168-183).



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# VITAL STATISTICS.

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GENERAL AND ZYMOTIC DISEASE.

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## AREA AND POPULATION.

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THE area under the jurisdiction of the Council of the City of Liverpool acting as the Urban Sanitary Authority, comprises 13,236 acres ( $20\frac{1}{2}$  square, miles.)

The total population constitutes the basis upon which comparative statistics rest, and the importance of an approximately accurate estimate of the total population is evident, since, without it, compilations of statistics, and the deductions from them, are worthless.

In the last Annual Report, the Medical Officer drew attention to the probability that the estimated population of the City was below the actual number. Whatever grounds there may then have been for assuming this, apply still more forcibly to the estimated population of 1897.

It will be remembered that the Registrar-General's estimate of the population of a district is based upon the assumption that the rate of change (increase or decrease) which had taken place during the last inter-censal period has obtained since. The census is taken only once every ten years, and there is no way of checking the accuracy of this estimate during the intervals, nor are any measures adopted by the Registrar-General with this view.

If, in previous inter-censal periods, this method had resulted in some approach to accuracy, there might be no grounds for criticising the results obtained by it; but such is very far from being the case, previous experience having shown the method to be unreliable. A city whose population is over-estimated will show a fictitious decline in its rate of sickness and mortality, and it would not be an unnatural outcome that the Sanitary Authority should refrain from expending money on sanitary

works, the need for which is obscured by false returns of sickness and mortality. On the other hand, the district whose population is underestimated suffers from an apparently high rate of sickness and mortality, and insanitary conditions are assumed, which, as a matter of fact, do not exist; useful measures may be discredited and abandoned, as no apparent good results from them, whilst damage to the reputation of the district follows.

Towards the close of the last inter-censal period there was an error in the Registrar-General's estimate of the population of the City of Liverpool of 100,000 persons. This large error in regard to Liverpool (which was not the most extreme case) proved that all returns relating to the preceding few years were erroneous. Corrections were duly made as soon as the necessary information was available, but having done this the same system was again embarked upon, and at this distance of time from the census there is reason to believe that we are again landed into error, not perhaps so gross, but yet to an extent great enough to make the comparative returns relating to sickness and mortality appear considerably higher than they actually are.

The following are among the considerations which lead to the belief that the estimated population for 1897, namely, 644,129, is below what it actually is.

The increase in the building of houses, alluded to in the year 1896, has continued during the year 1897 with even greater activity. During 1897, 1,656 houses have been erected, besides which plans for the erection of a very large number have during the same period been approved by the Health Committee. Furthermore, sites which have been cleared of insanitary property by the operations of the Insanitary Property and Artizans' Dwellings Committee, have had suitable artizans' cottages built upon them, and almost the whole of these are now occupied. The increase in the number of dwelling-houses, therefore, is not confined to those districts on the fringe of the City where the rapidity of building operations may be regarded as extraordinary, but some inner parts of the City have shared in it; so far as careful observation would suggest an opinion, the growth of the City from this cause appears to be as rapid as that of the other great cities.



The estimated number of houses in Liverpool (Old City and added areas), during years 1891 to 1897, is given in the accompanying table:—

YEAR.	Old City.	Walton.	Waver- tree.	West Derby.	Toxteth Park.	TOTAL.
Census Returns, 1891 ...	105,786	8,332	2,983	8,454	4,217	129,772
31st December, 1891 ...	105,790	8,519	2,983	8,454	4,274	130,020
„ 1892 ...	105,571	8,769	2,983	8,458	4,395	130,176
„ 1893 ...	105,379	9,019	3,001	8,415	4,574	130,388
„ 1894 ...	105,293	9,269	3,031	8,400	4,767	130,760
„ 1895 ...	105,011	9,457	3,051	8,390	4,867	130,776
„ 1896 ...	104,627	9,770	3,234	8,431	5,168	131,230
„ 1897 ...	104,607	10,040	3,561	8,562	5,378	132,148

The figures where estimated are studiously moderate, and are not likely to be incorrect on the side of excess.

For the “Former City” the figures are based upon the Census Return, and the actual number of houses erected and taken down since 1891, as recorded in the Building Surveyor’s Office.

The figures for Walton are based upon an estimated increase of 250 houses each year. As the number erected during the ten years prior to 1891 averaged about 400 for each year, and as the number erected since the date of incorporation is 583, 250 would seem to be a moderate estimate of the number erected each year, between 1891 and 1895.

The figures for Wavertree are based upon the Census Return and the opinion of Mr. Heaton, who was Assistant Surveyor for the district prior to its incorporation. It will be noted that the estimated increase from 1891 to 1895 is only 68; the *actual* increase since the date of incorporation is 510.

With regard to West Derby, the Year Book issued by the late Urban District Council gives certain figures for the years 1891 to 1895. The

figures for 1891 are 282 in excess of those given in the Census Returns, but in this statement the figures of the Census are taken as the basis, and consequently 282 have been deducted from the figures for each year in the West Derby Official Return.

For Toxteth Park, the figures have been taken from the last Report issued by the Surveyor to the Toxteth Park District Council, 100 being added as the estimated number of houses built during the ten months prior to incorporation.

The figures for 1896 and 1897 record the *actual* increases, the number of houses erected and taken down being recorded in books kept in the Building Surveyor's Office.

It may be said, however, that the tenants of the new houses have come from the old ones, which in turn are left empty, and consequently the number of empty houses in the City is increased. This criticism can be disposed of.

A return of unoccupied houses in the City was taken on a single night by the police on night duty, when it was found that the total number of empty houses did not exceed 5,327. The system adopted was as follows:—Each constable was furnished with forms, upon which he entered all the streets on his beat, giving the number of unoccupied houses in each. In the case of houses built in flats (Scotch houses), each tenement unoccupied was counted as one house, and with regard to lock-up shops with residences attached, if both shop and house were unoccupied, or the shop occupied but the residence not, it was counted as unoccupied, but if the residential portion of the premises was occupied and the shop not, it was counted as occupied.

There were 334 constables employed on the work, and some of their returns were checked afterwards.

Notwithstanding the great activity of building operations, the total number of empty houses is thus very much less than it was at the Census of 1891, at which time the number of empty houses was returned at 17,399, many of them being insanitary houses since demolished.

There does not seem to be any reason to doubt that the care exercised in making this return was as great as the care exercised at the period of taking the census. In both instances some margin of error should be allowed for, since mistakes and errors are inseparable from all returns involving the co-operation of large numbers of people; even a Parliamentary election, involving only the determination of one point by a few thousand educated and enlightened electors, stimulated by the keenness



of partisanship, and carefully looked after and canvassed, sometimes leaves a margin of error, which requires the decision of others. It may safely be assumed, therefore, that census returns, involving some half-dozen replies in respect to each one of 30 millions of people, many of those replies being furnished by illiterate and even incompetent and unwilling persons, cannot be expected to furnish a less margin of error.

The under-estimate of the population is again suggested by the fact that the estimated birth-rate of the City is greater than any one of the other cities in the United Kingdom which at all approach it in size. There does not appear on the face of it any reason why the inhabitants of Liverpool should be more prolific than the inhabitants of, for example, London, Birmingham, Bristol, or Leeds. Most likely they are not. The apparent high birth-rate is probably not real, but fictitious, arising out of the fundamental error in the estimate of the population.

Again, the returns show that the actual increase of the population by the number of births over the number of deaths, since the last Census was taken, amounts to 39,000 approximately, an addition every year of some 6,000 to the population from this cause alone. The City, therefore, since the last Census, shows,

- (a) An increase of 39,000 from one cause alone, viz., excess of births over deaths.
- (b) An increase in the total number of houses of 2,376.
- (c) An increase in the number of inhabited houses of 14,448.

Yet the estimate of the Registrar-General assumes that the total increase of the population has been only 600 every year.

When the rate of increase per thousand of the City, according to the Registrar-General's computation, is put into comparison with the rate of increase per thousand of the other great cities, we find a remarkable difference between them. For example, since 1891 the annual rate of increase per thousand of the population of

Glasgow is put down at 85·3 per 1,000 since 1891.

Hull	„	„	124·9	„	„
Leeds	„	„	114·1	„	„
Manchester	„	„	57·2	„	„
Sheffield	„	„	85·1	„	„
LIVERPOOL	„	„	5·7	„	„

a conclusion which suggests a margin of error.



The actual circumstances of the cities mentioned may not be known with sufficient exactness to enable reliable comparison to be drawn; the rate of increase of a nearer and more familiar borough may therefore be put in comparison, according to the Registrar-General's method, with the rate of increase in Liverpool. For the sake of example, Bootle may be cited. The population of Bootle at the Census of 1881 was found to be 27,374, and at the Census of 1891 it had increased to 49,217, equal to an annual increase of 2,184. This annual increase, by the method referred to, must be assumed to have continued, so that upon this means of computation the present population of Bootle would be 71,015. The Borough of Bootle, according to this method of computation, has added 4,046 to its population during the year 1897; during the same period the City of Liverpool has added 566. Since the year 1891 the population of the Borough of Bootle and the City of Liverpool have each of them, according to the Registrar-General's method, increased, Liverpool by 600 per annum, Bootle by 3,600. It is not probable that the computation is correct, but even if criticism is entirely unfounded, it is significant that the Bootle authorities have altogether discarded the method and its inferences, and the Registrar-General himself has acquiesced in a special estimate, which fixes the population of Bootle at 52,000 inhabitants.

It does appear on the face of it that there is room for doubt as to the accuracy of the estimate relating to other communities, and the matter is of sufficient importance to every community in the Kingdom to be set at rest, and this can only be done effectually by a more frequent Census.

It must be remembered that the decennial census was inaugurated one century ago, and no doubt constituted a very great step in the right direction, but the system has long since been found to be insufficient; yet to-day, in a matter of great national importance, we plod contentedly on, following a plan which we know from previous experience has led to the most preposterous mistakes. In the fulness of time those in whose hands this important matter rests may become alive to the importance of a more frequent census.

It remains to be added that in Germany a five-year census is taken, and in Japan it appears that the register of the population of each sub-district of the country is corrected every year by the addition to it of every infant born or of every family which becomes domiciled in the district, and the removal from it of persons dying or leaving the district. This re-enumeration takes place every year.

In estimating the population for the purposes of the present Report, the Registrar General's method has been slightly departed from. Instead of dealing with the former City area and the added areas altogether as one total, the estimated population of each, viz. (a) the former City, and (b) the added areas taken together, has been calculated separately, and the numbers arrived at are added together afterwards. This method brings up the population to 644,129, and this is the figure now taken as the basis of calculation.

The population is made up of 146,624 estimated inhabitants of the incorporated districts, giving to those districts a population of 18·2 to the acre, and 497,505 estimated inhabitants of the former City, which is equal to a population of 95·4 to the acre.

Quite apart from conditions of sanitation, mortality varies widely at different age-periods ; consequently the death-rate of a community is largely influenced by the proportions living at each age period ; the effect of a high birth-rate is considerable.

It will be seen from tables on pages 11 and 17 that the districts of highest birth-rate are those of highest death-rate.

The following table shows the actual number who died during last year in Liverpool out of every thousand living at each of the twelve age-periods indicated, and the differences which the figures show are very striking :—

1897.	Under 1 year.	1 to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 and upwards.	Total at all Ages.
Rate of Mortality per 1,000 living at ages indi- cated.	257·0	97·8	21·3	5·8	3·4	6·0	12·3	20·7	33·4	59·7	102·4	176·2	23·4
Total Number of Deaths at each Age Period ..	4,455	1,476	979	427	455	678	1,102	1,392	1,451	1,438	968	296	15,117

If, for example, we could conceive that the whole population of Liverpool consisted of persons between the ages of 20 and 30, the death-rate would be 6·0 per 1,000 ; if, on the other hand, we could conceive that it consisted entirely of people under 1 year of age, the death-rate would be about 257·0 per 1,000, and if above 60 years, 76·7 per 1,000, and this with absolutely no change whatever in the condition of municipal sanitation.

The variations in the proportions at different ages vary with extreme slowness, and have but a trifling effect in modifying aggregate results.

The deaths in public institutions of 473 non-residents, equal to a fraction of 0·7 per 1,000, have been eliminated from the table.

## BIRTHS.

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The birth-rate in the City of Liverpool is exceptionally high. During the last ten years the mean has been 34·5, which is considerably in excess of most of the 35 great towns.

During the fifty-two weeks of the year 1896 (terminating on Saturday, January 1st, 1897), the Returns of the Local Registrars recorded 22,280 births within the City, making the total birth-rate of the City equal to 34·6 per 1,000 of the population ; the average of the previous ten years for the former City area being 34·9. Of the total births 11,373 were males and 10,907 were females.

The distribution of the births in the different wards and districts of the City is indicated upon the accompanying map, and has also been arranged in the following table :—



## BIRTHS.

DISTRICTS AND WARDS.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		1897.		Corrected average Rate per 1000 during the 10 years 1887--1896.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Births.	Rate per 1000	
Scotland .....	279	264	232	252	292	260	299	244	2122	46·9	39·7
Exchange .....	167	186	162	156	189	159	188	174	1381	36·8	30·3
Abercromby... ..	229	201	225	219	209	224	213	191	1711	34·6	30·4
Everton .....	593	562	528	523	574	561	588	512	4441	40·1	36·9
Kirkdale .....	330	322	311	280	311	303	288	278	2423	35·5	35·9
West Derby.....	404	380	370	382	347	380	390	387	3040	38·3	35·6
Toxteth .....	470	441	425	454	469	456	432	380	3527	33·0	34·0
											34·9
Walton.....	209	201	197	188	186	181	203	187	1552	26·5	..
West Derby (Rural) .....	138	130	121	116	126	128	120	112	991	25·0	..
Wavertree .....	60	42	48	50	52	66	71	62	451	28·6	..
Toxteth (Rural) .....	93	79	75	77	87	88	73	69	641	19·6	..
City .....	2972	2808	2694	2697	2842	2806	2865	2596	22280	34·6	..

Without an exception, the birth-rate is higher in the old parts of the City than in the rapidly extending incorporated areas. This is so opposed to what is found usually to obtain in cities, that whilst not losing sight of the high birth-rate amongst the poorer classes, resulting from very early marriage, there remains strong presumptive evidence that the population of the older parts of the City is under-estimated.

From the following Table, showing the Population, Number of Births, and Birth-rate per 1,000 during the last twenty-five years, it will be seen that the Rate has shown no tendency to diminish since 1888.

Year.	Population.	No of Births.	Rate per 1,000.
1873	505,274	18,716	37·0
1874	510,640	19,861	38·9
1875	516,063	19,869	38·5
1876	521,544	20,426	39·2
1877	527,083	20,333	38·6
1878	532,681	20,612	38·7
1879	538,338	20,844	38·7
1880	544,056	20,783	38·2
1881	551,617	20,762	37·6
1882	548,065	20,498	37·4
1883	544,547	19,907	36·6
1884	541,031	20,071	37·1
1885	537,548	19,464	36·2
1886	534,088	19,559	36·6
1887	530,649	18,414	34·7
1888	527,233	17,777	33·7
1889	523,838	17,676	33·7
1890	520,466	17,592	33·8
1891	517,145	17,832	34·5
1892	513,818	17,758	34·6
1893	510,514	18,328	35·9
1894	507,230	17,893	35·3
*1895	638,291	22,006	†34·5
1896	641,063	21,943	34·2
1897	644,129	22,280	34·6

\* City area extended.

† Rate in former City area, 1895, 36·6 ; 1896, 36·7 ; 1897, 37·5.

The following table shows the *natural* increase or decrease of population, that is, the increase or decrease in the number of births over deaths during the year 1897, in the several districts of the City :—

DISTRICTS AND WARDS.							Births.	Deaths.	Increase.	Decrease
Scotland	..	..	..	..	..	..	2122	1711	411	..
Exchange	..	..	..	..	..	..	1381	1495	..	114
Abercromby	..	..	..	..	..	..	1711	1216	495	..
Everton	..	..	..	..	..	..	4441	2875	1566	..
Kirkdale	..	..	..	..	..	..	2423	1509	914	..
West Derby	..	..	..	..	..	..	3040	1827	1213	..
Toxteth	..	..	..	..	..	..	3527	2456	1071	..
Walton	..	..	..	..	..	..	1552	756	796	..
West Derby (Rural)	..	..	..	..	..	..	991	677	314	..
Wavertree	..	..	..	..	..	..	451	259	192	..
Toxteth (Rural)	..	..	..	..	..	..	641	336	305	..
City .. .. .							22280	15117	7163	..
Hospitals (Residences outside City) .. ..							..	473	..	..
Total.. ..							22280	15590	6690	..



The following table is prepared from the Census Returns, and from Reports of the Registrar General, and indicates the estimated rate of increase per 1,000 of the population of thirty-four large towns since the last Census.

TOWNS.	Population Census, 1891.	Estimated Population, 1897.	Estimated Increase.	Rate of Increase per 1,000 of Population since 1891.
London ... ..	4,232,118	4,463,169	231,051	54·59
West Ham ... ..	204,903	273,682	68,779	335·66
Croydon ... ..	102,695	121,171	18,476	179·91
Brighton ... ..	115,873	121,401	5,528	47·70
Portsmouth ... ..	159,251	182,585	23,334	146·52
Plymouth ... ..	84,248	97,658	13,410	159·17
Bristol ... ..	221,578	232,242	10,664	48·12
Cardiff ... ..	128,915	170,063	41,148	319·18
Swansea ... ..	90,349	100,309	9,960	110·23
Wolverhampton ... ..	82,662	87,287	4,625	55·95
Birmingham ... ..	478,113	505,772	27,659	57·85
Norwich ... ..	100,970	110,154	9,184	90·95
Leicester ... ..	174,624	203,599	28,975	165·92
Nottingham ... ..	213,877	232,934	19,057	89·102
Derby ... ..	94,146	103,291	9,145	97·13
Birkenhead ... ..	99,857	111,249	11,392	114·08
Bolton... ..	115,002	121,433	6,431	55·92
Manchester ... ..	505,368	534,299	28,931	57·24
Salford ... ..	198,139	213,190	15,051	75·96
Oldham ... ..	131,463	145,845	14,382	109·39
Burnley ... ..	87,016	106,122	19,106	219·56
Blackburn ... ..	120,064	131,330	11,266	93·83
Preston ... ..	107,573	115,103	7,530	69·99
Huddersfield... ..	95,420	101,454	6,034	63·23
Halifax ... ..	89,832	95,747	5,915	65·84
Bradford ... ..	216,361	231,260	14,899	68·86
Leeds ... ..	367,505	409,472	41,967	114·19
Sheffield ... ..	324,243	351,848	27,605	85·13
Hull ... ..	200,044	225,045	25,001	124·97
Sunderland ... ..	131,015	142,107	11,092	84·66
Gateshead ... ..	85,692	101,070	15,378	179·45
Newcastle-on-Tyne ... ..	186,300	217,555	31,255	167·76
Glasgow ... ..	658,708	714,919	56,211	85·33
<b>LIVERPOOL ... ..</b>	<b>629,443</b>	<b>633,078</b>	<b>3,635</b>	<b>5·77</b>

DEATHS.

The total death rate of the City during the year was 23·4 per 1,000.

The average rate during the three years (1895-7) since the extension of the City boundaries has been 23·6, and during the preceding ten years (1885-94) the average rate was 25·6 per 1,000.

The following table gives the number of deaths allocated to each district :—

DISTRICTS AND WARDS.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Annual.
	Male.	Fe-male.	Male.	Fe-male.	Male.	Fe-male.	Male.	Fe-male.	Deaths.
Scotland .....	191	226	196	194	231	254	219	200	1711
Exchange .....	191	186	178	163	219	176	202	180	1495
Abercromby .....	164	131	181	146	165	152	140	137	1216
Everton .....	363	335	283	323	492	429	320	330	2875
Kirkdale .....	196	182	167	156	229	203	208	168	1509
West Derby .....	217	220	191	221	266	286	224	202	1827
Toxteth .....	288	301	284	248	372	383	294	286	2456
Walton .....	102	79	92	84	118	120	88	73	756
West Derby (Rural) .....	88	92	63	80	91	106	73	84	677
Wavertree .....	25	36	25	28	40	43	36	26	259
Toxteth (Rural) .....	42	47	38	36	37	56	41	39	336
Workhouses and Hospitals (Residences outside the City) .....	66	52	78	47	78	46	70	36	473
City .....	1933	1887	1776	1726	2338	2254	1915	1761	15590

Deaths in Public Institutions are referred to the Wards from whence the patients came, but the following table shows that the deaths of 3,604 persons occurred in the undermentioned Institutions for the treatment of the sick :—

Parish Workhouse	...	...	...	...	1,069
Royal Infirmary	...	...	...	...	261
Children's Infirmary	...	...	...	...	124
Lying-in Hospital	...	...	...	...	8
Consumption Hospital	...	...	...	...	11
Hahnemann Hospital	...	...	...	...	22
Northern Hospital	...	...	...	...	133
Stanley Hospital	...	...	...	...	113
Royal Southern Hospital	...	...	...	...	200
Mill Road Infirmary	...	...	...	...	457
Hospital for Women	...	...	...	...	20
City Hospital North	...	...	...	...	94
Do. South	...	...	...	...	74
Do. Parkhill	...	...	...	...	45
Do. East, Mill Lane	...	...	...	...	21
Do. Priory Road	...	...	...	...	14
Walton Workhouse	...	...	...	...	528
Belmont Road Workhouse	...	...	...	...	37
St. Joseph's Home	...	...	...	...	18
Toxteth Workhouse	...	...	...	...	290
Home for Incurables	...	...	...	...	8
Turner Memorial Home	...	...	...	...	5
St. Augustine's Home	...	...	...	...	7
House of Providence	...	...	...	...	10
Other Public Institutions	...	...	...	...	35

From the returns made as to the residences of these persons 3,131 of the deaths in these establishments are classified in the Districts from whence the patients were removed, viz. :—414 under Scotland District, 525 under Exchange District, 321 under Abercromby District, 525 under Everton, 285 under Kirkdale, 322 under West Derby, 469 under Toxteth, 115 under Walton, 92 under West Derby (rural), 35 under Wavertree, and 28 under Toxteth (rural); 346 were non-residents who had sought relief in Liverpool Institutions, and the remainder, 127,



were waifs whose previous residences were unknown. In the absence of definite information, these latter have been recorded as deaths of non-residents.

The results of this allocation of deaths in public institutions to the districts from whence the patients had been removed, are shown in the following table, from which a calculated rate of mortality per 1,000 per annum of the inhabitants has been made. The rates are calculated upon a population increasing or decreasing in the same ratio as between 1881 and 1891. The same applies to the third column of figures showing the corrected average during the preceding ten years.

DISTRICTS AND WARDS	1897.		Corrected Average Rate per 1,000 during the 10 years 1887—1896.	Rate per 1000, year 1896.
	Deaths.	Rate per 1000		
Scotland .. ..	1711	37·7	34·9	34·5
Exchange .. ..	1495	39·8	36·6	37·2
Abercromby ..	1216	24·6	24·3	22·4
Everton .. ..	2875	25·9	23·9	24·3
Kirkdale ... ..	1509	22·1	21·8	19·5
West Derby .. ..	1827	22·9	21·5	21·4
Toxteth .. ..	2456	22·9	22·3	20·8
Walton .. ..	756	12·9	..	12·7
West Derby (Rural) ..	677	17·0	..	17·5
Wavertree .. ..	259	16·4	..	14·6
Toxteth (Rural) .. ..	336	10·2	..	9·8
City .. ..	15117	23·4	25·2	21·9

The Registrars' Returns show that there were 19 deaths (14 of women and 5 of men) at the age of 90 and upwards, viz., 4 males and 4 females at 90, 3 females at 91, 2 females at 92, 1 male and 1 female at 93, 1 female at 94, 1 female at 95, 1 female at 96, and 1 female at 98.

The death-rate per 1,000 for 1897 in each of the Districts of the City is indicated upon the appended map. Scotland and Exchange Districts contain a great number of common lodging houses, some of which are resorted to by a non-resident and very migratory population. This class tends to swell the mortality of these two districts.

The following table gives the estimated population, recorded birth and death rates, and population per acre of thirty-six of the large towns of the United Kingdom.

TOWNS.	Estimated Popula- tion in the middle of the year 1897	Annual Rate to 1,000 of Population.		Population per Acre
		Births.	Deaths.	
London .. .. .	4463169	30·0	18·1	59·8
West Ham .. .. .	273682	32·1	15·6	58·2
Croydon .. .. .	121171	24·9	13·0	13·4
Brighton .. .. .	121401	24·6	15·0	48·0
Portsmouth .. .. .	182585	26·8	16·1	39·1
Plymouth .. .. .	97658	28·4	19·0	42·6
Bristol .. .. .	232242	27·7	17·2	49·7
Cardiff .. .. .	170063	31·1	14·9	28·1
Swansea .. .. .	100309	29·3	15·8	19·7
Wolverhampton .. .. .	87287	35·0	22·5	24·8
Birmingham .. .. .	505772	33·3	21·5	39·8
Norwich .. .. .	110154	30·5	18·7	14·6
Leicester .. .. .	203599	30·5	17·6	23·7
Nottingham .. .. .	232934	28·9	18·7	21·2
Derby .. .. .	103291	27·0	16·0	29·9
Birkenhead .. .. .	111249	31·6	18·2	31·9
Bolton .. .. .	121433	32·5	21·9	51·5
Manchester .. .. .	534299	33·2	23·1	41·4
Salford .. .. .	213190	35·0	23·9	41·2
Oldham .. .. .	145845	26·0	19·2	30·8
Burnley .. .. .	106122	29·7	19·5	27·1
Blackburn .. .. .	131330	27·7	19·5	18·8
Preston .. .. .	115103	31·8	24·3	28·1
Huddersfield .. .. .	101454	23·4	16·4	8·6
Halifax .. .. .	95747	22·5	16·4	11·2
Bradford .. .. .	231260	24·6	17·4	21·4
Leeds .. .. .	409472	31·6	19·8	19·0
Sheffield .. .. .	351848	34·4	21·2	17·9
Hull .. .. .	225045	33·3	18·5	27·4
Sunderland .. .. .	142107	34·6	19·7	43·1
Gateshead .. .. .	101070	35·5	18·2	32·2
Newcastle-on-Tyne .. .. .	217555	31·3	19·1	40·5
Edinburgh .. .. .	292364	27·3	21·3	46·8
Glasgow .. .. .	714919	33·4	22·0	60·3
Dublin .. .. .	349594	29·2	28·1	14·1
<b>LIVERPOOL</b> .. .. .	<b>644129</b>	<b>34·6</b>	<b>23·4</b>	<b>48·7</b>

The following table indicates the seasonal mortality, and the incidence, in the various Wards of the City, of infantile mortality, and the proportion of deaths under five years to the total deaths :—

DISTRICTS AND WARDS.	Quarters.				Total Deaths.	Deaths under 5 years of age.	Per Cent- age of Deaths under 5 years to Total Deaths.	Per Cent- age of Deaths under 1 year to Total Births.
	March.	June.	Sept.	Dec.				
Scotland .. ..	417	390	485	419	1711	829	48·4	24·2
Exchange .. ..	377	341	395	382	1495	620	41·4	28·2
Abercromby... ..	295	327	317	277	1216	429	35·2	14·6
Everton .. ..	698	606	921	650	2875	1428	49·6	21·0
Kirkdale .. ..	378	323	432	376	1509	696	46·1	19·3
West Derby.. ..	437	412	552	426	1827	895	48·9	18·9
Toxteth .. ..	589	532	755	580	2456	1184	48·2	20·9
Walton .. ..	181	176	238	161	756	335	44·3	15·3
West Derby (Rural)	180	143	197	157	677	255	37·6	18·4
Wavertree .. ..	61	53	83	62	259	119	45·9	17·1
Toxteth (Rural) ..	89	74	93	80	336	122	36·3	14·4
Workhouses & Hos- pitals (Residences outside City) ..	118	125	124	106	473	60	12·6	..
City .. ..	3820	3502	4592	3676	15590	6972	44·7	20·1

Inquests were held on the bodies of 175 infants, under 12 months of age, who had been suffocated.

Deaths in Public Institutions are transferred to the Wards from whence the patients came.



## CAUSES OF DEATH.

The following table gives a classification of the actual causes of death during the four quarters of the year, grouped under 15 classes.

Full details as to the causes of death are set forth in tables (A and C) in the Appendix; in these tables the age at death and the district in which it occurred will also be found.

CLASSES.	QUARTERS.				YEAR 1897.
	March.	June.	Sept.	Dec.	
1. Zymotic and Septic Diseases .. .. .	371	497	1692	460	3020
2. Diseases of Uncertain or Variable Seat ..	132	131	155	143	561
3. Constitutional Diseases .. .. .	501	450	418	422	1791
4. Diseases of the Nervous System .. ..	428	385	383	380	1576
5.    ,,    ,,    Circulatory   ,,    ..    ..	281	261	259	274	1075
6.    ,,    ,,    Respiratory   ,,    ..    ..	983	794	544	1004	3325
7.    ,,    ,,    Digestive    ,,    ..    ..	221	213	283	204	921
8.    ,,    ,,    Lymphatic   ,,    ..    ..	2	2	2	4	10
9.    ,,    ,,    Urinary       ,,    ..    ..	95	79	91	84	349
10.   ,,    ,,    Re-productive ,,,    ..    ..	30	14	19	24	87
11.   ,,    ,,    Joints, &c.     .    ..    ..	18	10	7	13	48
12.   ,,    ,,    Integumentary System ..	14	7	11	10	42
13. Dietetic Diseases .. .. .	6	5	6	4	21
14. Developmental Diseases .. .. .	448	378	506	394	1726
15. Causes investigated at Coroner's Inquests ..	288	271	216	250	1025
Causes not specified .. .. .	2	5	..	6	13
All Causes .. .. .	3820	3502	4592	3676	15590

Intemperance as a direct cause of death shows a slightly higher figure than in the preceding year. Inquests were held on the bodies of 210 persons, viz., 43 men and 34 women whose deaths were caused by excessive drinking, 81 men and 33 women whose deaths were accelerated by excessive drinking, and 9 men and 10 women who were fatally injured by accident whilst in a state of intoxication. In seven inquests in which death was found to be the result of violence, the person committing the deed or the person killed was drunk at the time, and in three both the person who inflicted the injuries and the injured person were drunk at the time. Besides which alcoholism is certified as the cause of death of 17 persons, viz., 10 men and 7 women. Jurors are disposed to lay as little stress as possible upon a contributory cause of death which reflects upon the deceased. Taking the figures as they stand, it will be seen that as a direct cause of death, excessive indulgence in drink has, during the past year, destroyed more lives than some of the more formidable forms of zymotic disease. Deaths attributed to it are more numerous than from scarlet fever, or from all the other forms of fever, namely, typhus fever, typhoid fever, and simple continued fever, combined. It may be said that zymotic disease owes its importance to its potentialities, that the introduction of one case may give rise to an epidemic, whilst on the other hand it may be urged that the exit of a few score habitual drunkards is not a matter for lament.

It is true that zymotic sickness does owe much of its importance to its communicable nature, but it is not the less true that the mischief resulting from excess in drink is even farther reaching, and far more insidious. If the consequences were limited to the individual habitual drunkards, the gravity of the circumstance would be comparatively trifling; but no one who has ever been in the back streets can be ignorant that this is not the case, no one who has ever seen a morning newspaper will think that it is the case. Proof is clear that the poverty and the sickness and the mortality which owe their cause to excessive indulgence in drink are not fully indicated

by inquests. It is probable that funds for the more prolonged orgies are found from the "earnings" of little children "trading" in the streets. It will be noted that two of the areas of excessive disease and mortality, dealt with by the Insanitary Property Committee (Page 142), are over-supplied with public-houses.

Whilst thoughtful persons will not refrain from fixing their attention upon the aspects of the question which affect the public health, it is right to turn to the view which is presented in the Report of the Head Constable. There it will be found that the decrease in the arrests for drunkenness during the past few years has been phenomenal. In 1889 the number of such cases was upwards of 16,000; in the last three years the average has been but a trifle over 5,000. These gratifying figures indicate that amongst large sections of the working community the temperate use of alcohol is extending. The great improvement in the general environment of the working classes, the clearing away of insanitary property, the opening up and lighting of streets, the facilities to visit parks, to engage in or look on at outdoor amusements on holidays, as well as the many efforts of individual and concerted philanthropy, have all contributed to improvement.

The temperate use which has commended itself to this class has not yet filtered down amongst the lowest section of the labouring classes. The figures already quoted forbid any such conclusion, whilst there is no evidence whatever to prove that excessive drunkenness in the homes of dwellers in the more squalid regions has materially diminished. The Head Constable, alluding to the trifling increase in arrests for drunkenness in 1897 over the preceding year, ascribes it "in part at least to the greater prosperity during the year of the lowest section of the working classes." In other words, the greater prosperity during the year of the lowest section of the working classes has not proved beneficial to them.



## ZYMOTICS.

This class of diseases occasioned 3,020 deaths during the year 1897, and accounted for 19·4 per cent. of the total mortality within the City during this period. The death rate from zymotic diseases per 1,000 was 4·6. The deaths were as follows :—

						QUARTERS.				YEAR
						March.	June.	Sept.	Dec.	1897.
Total Zymoties	..	..	..	..	..	371	497	1692	460	3020
Smallpox	..	..	.	..	..	..	..	..	..	..
Measles..	..	..	..	..	..	67	150	71	56	344
Scarlatina	..	..	..	..	..	58	40	48	63	209
Diphtheria	..	..		..	..	25	15	18	33	91
Membranous Croup	..	..	..	..	..	8	9	7	10	34
Whooping Cough	..	..	..	..		74	118	87	77	356
Diarrhœa	..	..	..	..	.	44	54	1311	73	1482
Fever	Typhus		..	..	..	3	2	12	6	23
	Typhoid			.	..	22	20	34	69	145
	Simple Continued..		..	.	.	1	3	..	1	5
Other Zymotics	..	..	..	..	..	69	86	104	72	331

It cannot fail to be of interest to note the marked diminution in certain forms of these diseases, notably in those forms of it to which adult life is liable.

On pages 48 to 50 will be found tables indicating the deaths and the death rates from various forms of zymotic disease in the City, during each one of the last three decennial periods. Two of them, Smallpox and Typhus Fever, perhaps two of the most formidable diseases with which the Sanitary Authority has to contend, have become relatively rare, having slowly given ground, year by year, before the means adopted by the Municipality to suppress them. As regards Scarlet Fever, the diminution, though less striking, is still very apparent. It is quite true that similar measures, had they been applicable, would have caused a similar diminution in other zymotic diseases which are destructive of infant life, but the natural guardian of the infant is the mother, and the safety of the infant depends in a far greater measure upon the amount of domestic care exercised, than upon the operations which the Municipality can put into force. The extent to which the Sanitary Authority can directly interfere in these cases is relatively limited, and the diminution in infantile mortality is proportionately less than in the cases where the influence of the Sanitary Authority can be more directly exercised.

Neither Measles nor Whooping-Cough is included under the Notification Act, and it is very doubtful whether any advantages would result were they to be included. But few of the cases of these diseases can at present be isolated in hospital, but increased provision should be made for them as well as for the other forms of zymotic disease.

The following table shows the localities and the periods of the fatal prevalence of Zymotic diseases during 1897 :—

DISTRICTS, WARDS, &c.	Deaths from all Causes.	ZYMOTICS.				
		Quarters.				Per Centage of Zymotic Deaths to Deaths from all Causes.
		March.	June.	Sept.	Dec.	
Scotland .. .. .	1711	48	54	193	47	20·0
Exchange .. .. .	1495	30	38	123	29	14·7
Abercromby .. .. .	1216	24	57	81	33	16·0
Everton .. .. .	2875	66	84	401	74	21·7
Kirkdale .. .. .	1509	53	38	188	59	22·4
West Derby .. .. .	1827	45	73	214	68	21·9
Toxteth .. .. .	2456	59	85	277	80	20·4
Walton .. .. .	756	9	24	94	25	20·1
West Derby (Rural) .. .. .	677	17	14	67	21	17·6
Wavertree .. .. .	259	8	9	23	8	18·5
Toxteth (Rural) .. .. .	336	10	11	28	9	17·3
Workhouses and Hospitals (Residences outside City) .. .. .	473	2	10	3	7	4·6
City .. .. .	15590	371	497	1692	460	19·4

Deaths in Public Institutions are transferred to the Wards from whence the patients came.



SMALL-POX AND VACCINATION.

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Small-pox was introduced into the City on three occasions, the total cases numbering six. In one case the patient was removed direct from the ship, the other patients were removed from their homes. In all the cases every possible precaution was taken to prevent any extension of the disease, and fortunately these precautions were successful each time. (See page 117.)

There were no deaths during the year.

The Royal Commission on Vaccination was constituted in 1889, and continued its labours until 1896, and no one reading the Report can fail to be impressed with the immense pains taken to ensure a searching investigation into all controversial points connected with Vaccination.. Every view and every theory which any person at any time has advanced, appear to have been the subjects of protracted and searching inquiry, and the conclusions, after seven years' deliberations, confirming as they do those which seven days' practical experience in a small-pox hospital would have emphasized no less forcibly, deserve careful attention.

The Commission, in summarizing the evidence as to whether Vaccination has any, and, if so, what protective influence in relation to Small-pox, say as a result of their protracted and deliberate inquiry—"It does appear to us impossible to resist the conclusion that vaccination has a protective effect in relation to Small-pox."

"The beneficial effects of vaccination are most experienced by those in whose case it has been most thorough. We think it may fairly be con-

cluded that where the vaccine matter is inserted in three or four places it is more effectual than when introduced into one or two places only." (Par. 377 of Report of Royal Commission).

"We can see nothing to warrant the conclusion that in this country vaccination might safely be abandoned and replaced by a system of isolation." (Section 503.)

Having regard to so strong and direct an expression of belief, it does appear, on the face of it, to be strange indeed that the Commission should recommend that, whilst no change in the law requiring compulsory vaccination is made, yet more than one penalty for persistent breach of the law should be no longer enforced.

The percentage of births in England and Wales not finally accounted for as regards vaccination was higher for 1894 than it had been in any year since returns relating to vaccination commenced.

There is no doubt whatever that two circumstances have during late years contributed to the increase in the numbers of infants who have not been vaccinated. One of these has been the prolonged period which elapsed before the Royal Commission could issue their Report, and the other is the recommendation just quoted. It becomes important therefore to note clearly and definitely the reasons which weighed with the Commission in making this recommendation, and the following paragraph (524) of their Final Report shows that they made it because they believed that repeated prosecutions tended to enable the defaulter to pose as a martyr, and actually lessened rather than promoted the object in view.

In Section 524 they say, "After careful consideration and much study of the subject we have arrived at the conclusion that it would conduce to increased vaccination if a scheme could be devised which would preclude the attempt (so often a vain one) to compel those who are honestly opposed to the practice to submit their children to vaccination, and at the same time leave the law to operate, as at present, to prevent children remaining unvaccinated owing to the neglect or indifference of the parent." In

reference to this matter, the Commission further say that "every effort should be made to remove the causes which now render vaccination burdensome and tend to its discouragement."

(Section 509.) "From the views which we have expressed on the subject of vaccination, and on the absence of proof that any practical alternative exists which could be relied on to accomplish the same results if vaccination fell into disuse, it follows that we are of opinion that the State ought to continue to promote the vaccination of the people; nor are we prepared to recommend that the State should cease to require vaccination, and trust entirely to a voluntary adoption of the practice."

The recommendation of the Commission, that repeated penalties for non-vaccination should not be enforced, appears to be at variance with their conclusions, until it is made abundantly clear that this latter concession is made with a view to conciliate, and to convert opposition into co-operation.

There can be little doubt that the general public will not understand the subtleties of the position, and the growing proportion of children who remain unvaccinated is already evidence of this.

As regards re-vaccination, the Commission say (Section 533), "We have already adverted to the importance which we attach to re-vaccination . . . we think it should be in every way encouraged. We think steps should be taken to impress on parents the importance of having their children re-vaccinated not later than at the age of twelve years."

At the present time there are grounds for supposing that Liverpool is amongst the best vaccinated communities in the Kingdom, which perhaps is but faint praise, the latest returns relating to children whose births were registered in 1894 show that in the Parish of Liverpool 4·1 per cent. remained unvaccinated, in West Derby 7·2 per cent., and in Toxteth 9·1 per cent., but if the Report of the Royal Commission and the changes in legislation, which will no doubt follow it, should have the untoward effect of lessening the proportion of the vaccinated, consequences of a very grave nature may be apprehended.



## SMALL-POX DURING THE LAST THIRTY-FIVE YEARS.

Years of Increase.	No. of Cases.	Deaths.	Years of Subsidence.	No. of Cases.	Deaths.
1863	1,660	100			
1864		482			
1865		459			
1866		102			
			1867		22
			1868		18
			1869		20
1870		174			
1871		1,919			
1872		50			
	832		1873		10
			1874		30
			1875		29
1876		386			
1877		299			
			1878	35	3
			1879	12	...
			1880	14	2
			1881	262	34
			1882	67	6
			1883	126	26
1884		166			
			1885	375	46
			1886	234	29
			1887	23	1
			1888	46	1
			1889	8	1
			1890	2	...
			1891	20	2
			1892	193	13
			1893	75	9
			1894	229	20
			1895	130	12
			1896	8	...
			1897	6	...

TYPHUS FEVER.

This City is one of the few where typhus still lingers, and here, fortunately, the cases are relatively few. The gradual falling off of previous years was further accentuated last year. As is usual, however, the fatal results occurred in adult life, the breadwinners of the family being those to succumb. The disease is almost invariably associated with intemperance and squalor, and personal and domestic filth. It is one which under these conditions is particularly liable to spread, and this explains the necessity for constant watchfulness to hold it in check.

There were 158 cases found during the year, 23 of which, as the table shows, resulted fatally.

AGES AT DEATH.											
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & up- wards.	All Ages.
—	—	1	—	—	—	4	6	8	3	1	23

List of Streets in the City where cases of TYPHUS FEVER occurred during the Year 1897.

STREETS.						Cases.	Deaths.	STREETS.						Cases.	Deaths.
Ascot	..	.	..	..	1	1		Beresford	..	..	..	1	..		
Athol	..	..	..	.	21	..		Birchfield	..	..	..	1	1		
Beacon	..	..	..	..	1	..		Blackstone	..	..	..	4	..		
Beau	..	..	..	..	3	..		Brasenose Road	..	..	..	1	1		

List of Streets in the City where cases of TYPHUS FEVER occurred  
during the year 1897.—*Continued.*

STREETS.	Cases.	Deaths.	STREETS.	Cases.	Deaths
Brownlow Hill .. .. (Inmate of Workhouse)	1	1	Millard .. .. .	3	..
Chelmsford .. .. .	1	1	Neville .. .. .	1	..
China .. .. .	1	1	Newsham .. .. .	8	2
Codrington . . . .	1	1	Opie .. .. .	1	1
Darwen.. .. .	11	1	Page .. .. .	1	..
Denbigh .. .. .	2	..	Paget .. .. .	1	..
Eldon .. .. .	3	..	Penrhyn .. .. .	1	1
Epsom .. .. .	2	..	Prince Edwin .. ..	3	1
Fairy .. .. .	1	..	Rawsthorne Square .. ..	4	1
Field .. .. .	1	1	Regent Road .. .. .	1	..
Great Howard.. ..	3	..	Rockingham .. .. .	3	..
Great Nelson .. ..	1	..	Rose Place .. .. .	1	..
Great Richmond .. ..	9	1	Rose Vale .. .. .	8	1
Haigh .. .. .	5	..	Scotland Road .. .. .	1	1
Hill .. .. .	1	.	Silvester .. .. .	1	..
Holborn .. .. .	2	..	Stitt .. .. .	4	..
Hopwood .. .. .	1	..	Tenterden .. .. .	1	..
Hornby .. .. .	1	..	Townsend .. .. .	1	..
Idris .. .. .	1	..	Upper Dalton .. .. .	3	1
Jervis .. .. .	1	..	Vauxhall Road .. .. .	1	..
Kirkdale Road .. ..	1	..	Vivian .. .. .	2	..
Landor .. .. .	1	..	Wakefield .. .. .	1	..
Luton .. .. .	8	1	Walnut .. .. .	1	1
Menai .. .. .	4	..	Wykeham .. .. .	1	..
Metley .. .. . (Elm Terrace)	9	2			



TYPHOID FEVER.

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The deaths from Typhoid Fever show a decline on the preceding year, and consequently the gradual diminution in the deaths from this disease has been uninterrupted since 1894. Owing to the communicable nature of the disease, its rise or fall is liable to be influenced by conditions which are exceedingly difficult for the Sanitary Authority to interfere with, and Parliament has not yet granted powers to enable Sanitary Authorities to deal effectually with some of the channels of infection, more especially with contaminated food. Over and over again, persons become infected with typhoid fever, and the closest investigation fails to establish the sources to which that infection is due. As an instance, however, of infection by food, a series of cases may be quoted. During the first four days of last October, four cases of typhoid fever were notified in the Knotty Ash district of this City; the district in question is a somewhat large suburban one, and there was nothing in the incident to call for special comment, the point of community being that they were young children all attending the same school. On October 5th five more cases were notified, and between that day and the 10th October ten more were recorded, all of them being children attending the school referred to. The period of the illness of the various patients indicated the end of the first week in September as the probable date of infection. After careful inquiry possible sources of infection which may have existed at the homes of the patients were excluded, and it was ascertained that the milk supplied at the various houses came from six separate dealers, whose premises were in good order. Meantime an investigation had also been made into the conditions of the school, careful examination exempted from suspicion the water-supply and the drainage of the school, and a brook which runs near. Extended investigation discovered that two children living at New Brighton and one living in Liverpool had been at Knotty Ash early in September, and were now suffering from typhoid fever at their own homes, and later on a pupil in a

school at Denbigh was attacked under similar circumstances. None of these patients had been at the Knotty Ash school. Ultimately the total number of children infected with typhoid fever amounted to 27.

Inquiry elicited the fact that a village fair had been held in Knotty Ash on the 6th and 7th September, and that every one of the children who had suffered from typhoid fever, including those who did not attend the school, as well as those who did, had been present at that fair, and all admitted, with two exceptions, that they had eaten ice cream sold by a vendor at the fair, and the two exceptions were believed to have eaten chip potatoes purchased from the same vendor at the same time, though one was too young and the other too ill to give a definite statement. The vendor in question was reported to have come from Warrington, but after a careful search in the City, it was found that he was an Italian, and had an ice cream factory in a low district of the City of Liverpool, and that there was, at the time of the fair, a case of typhoid fever in his house. This man's ordinary trade was that of a fried fish seller, and difficulty in discovering him was increased by the fact that he only manufactured ice cream on chance occasions.

It is believed that Parliamentary powers will speedily be obtained for the registration and closer supervision of itinerant vendors of food.

Upwards of 50 per cent. of the total number of cases notified during the year were moved to hospital (See page 171).

The following gives the ages at death of the fatal cases :—

AGES AT DEATH.											
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & up- wards.	All Ages.
1	—	3	11	16	21	33	34	16	6	4	145

Table showing the locality and season of deaths from the various forms of Continued Fever during the year 1897.

DISTRICTS AND WARDS.	1st Quarter.				2nd Quarter.				3rd Quarter.				4th Quarter.				YEAR.			
	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.
Scotland	1	6	..	7	1	3	..	4	6	4	..	10	..	12	..	12	8	25	..	33
Exchange	..	..	..	..	..	1	..	1	1	2	..	3	1	5	..	6	2	8	..	10
Abercromby	1	..	..	1	..	1	..	1	..	..	..	..	..	5	..	5	1	6	..	7
Everton ...	1	2	..	3	..	5	..	5	2	8	..	10	2	8	..	10	5	23	..	28
Kirkdale	..	4	..	4	1	1	..	2	2	9	..	11	..	6	1	7	3	20	1	24
West Derby	..	3	1	4	..	..	1	1	1	4	..	5	3	7	..	10	4	14	2	20
Toxteth	..	2	..	2	..	4	2	6	..	3	..	3	..	10	..	10	..	19	2	21
Walton ...	..	2	..	2	..	1	..	1	..	1	..	1	..	10	..	10	..	14	..	14
West Derby (Rural)	..	1	..	1	..	..	..	..	..	1	..	1	..	1	..	1	..	3	..	3
Wavertree	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	1	..	1
Toxteth (Rural)	..	..	..	..	..	3	..	3	..	..	..	..	..	4	..	4	..	7	..	7
Hospitals (Residences out of City)	..	2	..	2	..	1	..	1	..	1	..	1	..	1	..	1	..	5	..	5
Hospitals (Residences unknown)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL FOR WHOLE CITY	3	22	1	26	2	20	3	25	12	34	..	46	6	69	1	76	23	145	5	173

In arranging this Table, all Deaths occurring in Hospitals have been transferred to the Wards from whence the patients came.



## SCARLATINA.

There was some falling off in the prevalence of this disease during the past year. It has again to be recorded that the demands for the isolation in Hospital of patients suffering from Scarlatina has increased. Out of a total of 3,001 cases reported, no less than 1,641 were removed to the Hospital. The proportions of patients removed to the hospital during each of the last four years, has been as follows :—35·7, 38·3, 44·3, and 54·6.

## DEATHS FROM SCARLATINA.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	..	..	..	..	..	3	2	1	2	1	4	1	2	6	10	16
Exchange	..	..	..	..	..	..	1	1	..	1	2	..	..	2	3	5
Abercromby	..	..	..	..	..	..	1	..	1	..	2	2	2	2	6	8
Everton	..	..	..	..	..	4	2	6	2	5	6	..	2	15	12	27
Kirkdale	..	..	..	..	..	5	..	3	4	..	..	1	1	9	5	14
West Derby	..	..	..	..	..	6	3	1	2	3	5	7	8	17	18	35
Toxteth	..	..	..	..	..	15	10	2	8	7	9	6	19	30	46	76
Walton ..	..	..	..	..	..	2	1	..	2	1	..	1	1	4	4	8
West Derby (Rural)	..	..	..	..	..	..	..	..	3	1	..	2	3	3	6	9
Wavertree	..	..	..	..	..	..	2	..	..	1	..	2	2	3	4	7
Toxteth (Rural)	..	..	..	..	..	..	1	2	..	..	..	1	..	3	1	4
Hospitals (Residences outside the City)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
City	..	..	..	..	..	35	23	16	24	20	28	23	40	94	115	209

## AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
16	38	33	36	29	51	5	..	..	1	..	..	209

Deaths in Public Institutions are transferred to the Wards from whence the patients came.

MEASLES.

The following table shows the periods of the year and the localities in which deaths from Measles occurred, and also the ages at death.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	..	..	.	..	..	8	6	6	7	5	1	2	1	21	15	36
Exchange	..	..	..	..	..	5	3	11	9	1	3	..	..	17	15	32
Abercromby	..	..	..	..	..	4	5	15	14	6	1	..	1	25	21	46
Everton	..	..	..	..	..	16	8	13	5	6	2	8	9	43	24	67
Kirkdale	..	..	..	..	..	2	2	4	..	..	4	11	7	17	13	30
West Derby	..	..	..	..	..	2	6	11	10	3	5	4	3	20	24	44
Toxteth..	..	.	..	..	..	..	..	14	15	11	13	2	2	27	30	57
Walton ..	..	..	..	..	..	..	..	2	1	1	3	..	1	3	5	8
West Derby (Rural)	..	..	..	..	..	..	..	2	2	2	3	2	3	6	8	14
Wavertree	..	..	..	..	..	.	..	3	4	1	..	..	..	4	4	8
Toxteth (Rural)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hospitals (Residences outside the City)	..	.	..	..	..	..	..	2	..	..	..	..	..	..	2	2
City	..	..	..	..	..	37	30	81	69	36	35	29	27	183	161	344

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
88	158	49	19	18	12	—	—	—	—	—	—	344

Deaths in Public Institutions are transferred to the Wards from whence the patients came.

# WHOOPING COUGH.

The following table shows the periods of the year and the localities in which deaths from Whooping Cough occurred, and also the ages at death.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	..	..	..	..	..	2	4	6	10	5	7	6	4	19	25	44
Exchange	..	..	..	..	..	3	6	..	2	..	3	..	2	3	13	16
Abercromby	..	..	..	..	..	2	1	9	4	2	2	..	4	13	11	24
Everton	.	..	..	..	..	2	8	10	9	11	11	6	9	29	37	66
Kirkdale	..	..	..	..	..	12	11	4	6	3	3	3	8	22	28	50
West Derby	..	..	..	..	..	4	4	11	11	3	6	11	8	29	29	58
Toxteth	..	..	..	..	..	5	2	16	9	9	11	2	7	32	29	61
Walton..	..	..	..	..	..	2	..	2	3	5	2	1	2	10	7	17
West Derby (Rural)	..	..	.	..	..	..	3	..	2	..	1	..	2	..	8	8
Wavertree	..	..	..	..	..	1	..	1	1	..	..	2	..	4	1	5
Toxteth (Rural)	..	..	..	..	..	1	1	..	2	2	1	..	..	3	4	7
Hospitals (Residences outside the City)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
City	..	..	..	..	..	34	40	59	59	40	47	31	46	164	192	356

## AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
128	143	40	20	13	10	2	..	..	..	..	..	356

Deaths in Public Institutions are transferred to the Wards from whence the patients came.



## DIPHTHERIA.

The following table shows the periods of the year and the localities in which deaths from Diphtheria occurred, and also the ages at death.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .. .. .	..	..	..	..	..	..	1	..	..	..	1	..	..	..	2	2
Exchange .. .. .	..	..	..	..	..	..	1	1	..	..	..	3	..	4	1	5
Abereromby .. .. .	..	..	..	..	..	1	..	..	1	..	..	2	..	3	1	4
Everton .. .. .	..	..	..	..	..	2	1	1	2	1	1	4	2	8	6	14
Kirkdale .. .. .	..	..	..	..	..	2	2	..	1	..	..	2	1	4	4	8
West Derby .. .. .	..	..	..	..	..	5	..	1	3	1	4	2	6	9	13	22
Toxteth .. .. .	..	..	..	..	..	3	2	..	2	2	4	6	2	11	10	21
Walton .. .. .	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	2
West Derby (Rural) .. .. .	..	..	..	..	..	..	1	..	1	..	..	..	1	..	3	3
Wavertree .. .. .	..	..	..	..	..	1	..	..	..	1	..	..	1	2	1	3
Toxteth (Rural) .. .. .	..	..	..	..	..	1	2	1	..	1	1	..	1	3	4	7
Hospitals (Residences outside the City) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
City .. .. .	..	..	..	..	..	15	10	5	10	7	11	19	14	46	45	91
AGES AT DEATH.																
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.			
13	16	17	13	5	21	4	..	1	..	..	1	..	91			

Deaths in Public Institutions are transferred to the Wards from whence the patients came.

## CROUP.

The following table shows the periods of the year and the localities in which deaths, attributed by the Medical Attendant to Croup occurred, and also the ages at death. Thirty-four of the deaths were attributed to Membranous Croup, and twenty-four to Croup.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March		June.		Sept.		Dec.		M.	F.	Total
						M.	F.	M.	F.	M.	F.	M.	F.			
Scotland .. .. .						1	1	..	..	1	2	1	3	3	6	9
Exchange .. .. .						2	1	..	2	..	1	2	..	4	4	8
Abercromby .. .. .						..	..	1	..	..	1	..	..	1	1	2
Everton .. .. .						1	1	4	3	1	1	1	3	7	8	15
Kirkdale .. .. .						1	..	1	1	..	1	..	1	2	3	5
West Derby .. .. .						2	1	..	..	..	..	..	..	2	1	3
Toxteth .. .. .						4	1	1	1	..	1	..	1	6	2	8
Walton. . . . .						1	..	1	..	1	..	1	..	4	..	4
West Derby (Rural) .. .. .						1	..	..	..	..	..	1	..	2	..	2
Wavertree .. .. .						..	1	..	..	..	..	..	..	..	1	1
Toxteth (Rural) .. .. .						..	..	..	..	..	1	..	..	..	1	1
Hospitals (Residences outside the City) .						..	..	..	..	..	..	..	..	..	..	..
City .. .. .						13	6	8	7	3	7	7	7	31	27	58

AGES AT DEATH.												
Under 1 year.	1 —	2 —	3 —	4 —	5 —	10 —	15 —	20 —	30 —	40 —	50 —	All Ages.
21	11	7	7	4	8	..	..	..	..	..	..	58

Deaths in Public Institutions are transferred to the Wards from whence the patients came.

ZYMOTIC DIARRHŒA.

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One of the most important causes of the high rate of mortality during the year was zymotic diarrhœa, or acute gastro-enteritis. The mortality, which chiefly affected infants, commenced to rise early in July, and continued until October. The disease was most prevalent during the six weeks commencing on July 25th, and terminating September 4th. No less than 1,039 deaths were registered from it during this brief period, and to these must be added deaths from the closely-allied or identical disease, English cholera.

Infantile mortality from this cause has been very carefully investigated in this City, and the fact is established beyond any dispute that errors in feeding, which under ordinary circumstances may be unattended with serious consequences, give rise in hot and dry weather to a high mortality. The reason of this is that artificial foods, cows' milk, etc., during hot and dry weather are liable to rapid putrefaction, owing to contamination by decomposing dirt and dust of various kinds. Domestic inattention to the flushing of closets and house drains, dust and dirt from the streets, emanations from sewers and domestic offices, result in the development of organisms of a virulently poisonous kind, which may find access to food and drink.

The deaths amongst children under three months of age, either wholly or partially fed on artificial foods, are fifteen times as great as they are amongst an equal number of infants fed upon breast milk.

Between the ages of three and six months, for every infant getting breast milk as part of its diet, who dies from diarrhœa, there are six who die amongst an equal number getting no breast milk.

The method of feeding plays a most important part in the causation of diarrhœa; when artificial feeding becomes necessary, the most scrupulous attention should be paid to feeding bottles, etc.

During a wet and cool summer and autumn, mortality from zymotic diarrhœa is comparatively small, but a high death-rate from this cause is an invariable accompaniment of a warm, dry season.



If a series of years be taken, and the average temperature and rainfall carefully compared, the striking connection of warmth and dryness with the mortality from the cause now being dealt with, becomes very clear. Taking the last twenty years, six of them showed an average rainfall from June to September of 13·8 inches, the average number of deaths during the third quarter of each of these years from zymotic diarrhœa was 373. Fourteen, however, out of the twenty years had an average rainfall from June to September of 10·9 inches, and the average number of deaths from diarrhœa during the third quarter of each one of these years was 573, that is, 53 per cent. in excess of the average of periods of high rainfall.

To take extremes, in the year 1891 upwards of 16 inches of rain fell from June to September, and 203 deaths occurred from diarrhœa during the third quarter of that year. In 1895, however, only 7·7 inches of rain fell from June to September, and the deaths from diarrhœa during the third quarter amounted to 819. Last year 8·4 inches of rain fell during the third quarter, and deaths from diarrhœa during that period amounted to 1,311. June, however, was wetter than usual.

There is no reason to assume that differences in the method of feeding the infants were resorted to in the two series of periods under comparison, but the striking features are the differences in the rainfall and temperature.

For the sake of simplicity the two years already alluded to may be put into comparison from another point of view. In 1891 the rainfall during the period under consideration was upwards of eight inches more than it was in 1895. This means that upwards of 900 millions of gallons of water were distributed to the then City in the season of low mortality, which were absent in the year of high mortality. The immeasurable benefit of such washings of street surfaces, house drains, sewers, etc., is clearly indicated here, and there is no doubt whatever, when the facts of preceding years are critically examined, that this additional water-supply is a most potent factor in determining disease. The direction in which any natural

deficiencies must be supplied is plainly indicated; if the summer should be fine and sunny, accumulations of filthiness must not be allowed to remain until washed away by rain, but a larger quantity of water must be used for sanitary purposes.

The actual meteorological conditions are shewn, for the last 20 years, on the following table :—

Year.	Average Temperature.		Total Rainfall.		Mean Temp. of Year.	Total Rainfall for Year.	Deaths from Diarrhœa.		
	June to Sept.	July to Sept.	June to Sept.	July to Sept.			From July to Sept.	During Year.	
								Below 1 year.	Above 1 year.
1878	59·9	60·2	12·432	9·471	49·5	28·548	784	634	345
1879	56·6	56·7	15·730	12·215	46·3	29·785	214	224	178
1880	59·5	60·3	11·532	9·109	49·2	31·338	813	572	456
1881	57·2	57·5	10·903	8·551	47·7	30·668	341	315	193
1882	56·9	57·3	13·547	9·299	49·3	34·472	395	333	254
1883	57·7	58·1	12·769	10·560	48·9	28·930	325	308	210
1884	60·2	60·9	9·755	8·973	50·2	25·277	660	540	301
1885	57·2	57·3	10·365	8·347	47·9	29·525	286	250	172
1886	58·4	59·2	9·785	8·831	48·2	34·620	616	489	292
1887	59·8	59·3	8·503	7·085	48·0	20·821	503	415	204
1888	56·6	56·5	10·510	8·479	47·8	24·090	306	280	151
1889	58·4	57·9	8·875	8·030	48·8	27·373	439	400	175
1890	58·3	58·7	11·034	8·145	48·8	26·820	308	276	192
1891	58·4	58·4	16·187	11·869	48·3	31·643	203	182	148
1892	57·0	57·1	12·287	8·935	47·5	33·032	316	257	148
1893	60·7	60·5	10·418	8·873	50·9	24·537	566	534	332
1894	57·7	57·7	9·220	7·262	49·8	27·912	391	344	159
1895	59·6	60·2	7·741	6·746	48·1	26·265	819	718	390
1896	59·1	58·4	11·593	9·512	49·4	26·633	671	613	238
1897	58·8	59·0	11·134	8·460	49·4	28·580	1311	1053	429

For several years past the Medical Officer has, with the sanction of the Health Committee, caused a memorandum of simple instructions to be widely distributed amongst the poorer classes at the commencement of summer. These instructions, whilst indicating the method by which infants should be fed, point out also the importance of cleanliness of person, clothing, and surroundings, and include the following paragraph:—"The water-closet should be repeatedly and thoroughly flushed, and sinks and drains kept clean by frequent flushing each day. A free and unstinted use of water is far better than any disinfectant."

The dust, or particles, of fœcal filth are the most potent in causing those changes in food which give rise to fatal inflammatory diseases of the stomach and bowels. There is no question about this; it is established beyond doubt that the poison consists of a living organism which grows and multiplies especially in fœcal filth, and it is this kind of filth which of all others should be speedily and effectually washed away from the dwelling.

When a number of causes combine to affect prejudicially the public health, it becomes a matter of difficulty to separate one from another, and allocate to each its precise share as a direct and immediate cause of death. It is owing to this difficulty that general principles are accepted, and conditions which are known to be prejudicial are regarded with suspicion even in their minor stages; having regard to the considerations at stake, it is a wiser course that this view should be accepted and acted upon rather than that positive and convincing evidence that the condition in question has killed somebody should be waited for.



DEATHS FROM DIARRHŒA.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	..	..	..	..	..	5	7	5	5	68	77	6	7	84	96	180
Exchange	..	..	..	..	..	3	3	3	3	54	49	2	9	62	64	126
Abercromby	..	..	..	..	..	2	2	2	3	29	32	3	4	36	41	77
Everton	..	..	..	..	..	7	1	7	7	166	160	10	5	190	173	363
Kirkdale	..	..	..	..	..	2	2	3	1	88	69	5	2	98	74	172
West Derby	..	..	..	..	..	1	1	6	3	90	81	4	3	101	88	189
Toxteth	..	..	..	..	..	1	1	2	..	104	90	3	3	110	94	204
Walton ..	..	..	..	..	..	..	..	1	1	33	30	4	..	38	31	69
West Derby (Rural)	..	..	..	..	..	4	..	..	1	25	26	1	1	30	28	58
Wavertree	..	..	..	..	..	..	..	..	..	8	10	..	..	8	10	18
Toxteth (Rural)	..	..	..	..	..	2	..	..	..	6	15	..	..	8	15	23
Hospitals (Residences outside the City)	..	..	..	..	..	..	..	..	1	..	1	1	..	1	2	3
City	..	..	..	..	..	27	17	29	25	671	640	39	34	766	716	1482

AGES AT DEATH.													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 & up-wards.	All Ages.
1053	282	45	10	4	11	1	..	2	4	9	16	45	1482

Deaths in Public Institutions are transferred to the wards from whence the patients came.

List of Streets in the City wherein Three or more Deaths from  
Diarrhœa occurred during the year 1897.

STREETS.	No. of Deaths.	STREETS.	No. of Deaths
Arkwright .. .. .	5	Dorrington .. .. .	3
Arley.. .. .	3	Eldon .. .. .	6
Arlington .. .. .	7	Elias . . . .	8
Ashfield .. .. .	6	Empire . . . .	5
Aspinall .. .. .	4	Epsom . . . .	3
Athol .. .. .	4	Everton Terrace . . . .	3
Beacon Lane .. .. .	3	Fletcher .. .. .	3
Beau .. .. .	3	Field . . . .	5
Beaufort .. .. .	5	Foley . . . .	3
Birkett .. .. .	3	Freeland . . . .	4
Bismarck .. .. .	4	Garibaldi . . . .	3
Bispham .. .. .	3	Gomer . . . .	4
Blair .. .. .	4	Gordon .. .. .	8
Blenheim .. .. .	4	Grafton .. .. .	5
Bond .. .. .	6	Great Homer .. .. .	10
Boundary Lane .. .. .	3	Great Howard .. .. .	4
Braemar .. .. .	4	Great Richmond .. .. .	3
Buckingham .. .. .	6	Hankin .. .. .	4
Burlington .. .. .	11	Hawdon .. .. .	6
Bute .. .. .	3	Heyworth . . . .	3
Cambria .. .. .	3	Holden .. .. .	4
Canterbury .. .. .	4	Hopwood .. .. .	3
Cardwell .. .. .	3	Hornby . . . .	8
Cecil .. .. .	3	Howe .. .. .	4
China .. .. .	5	Hygeia .. .. .	3
Circus .. .. .	3	Johnson . . . .	3
Claudia .. .. .	3	Kensington .. .. .	3
Cleopas .. .. .	3	Kepler .. .. .	4
Cockerell .. .. .	3	Knight .. .. .	3
Craven .. .. .	3	Lamb .. .. .	6
Crete . . . .	5	Lamport . . . .	3
Doncaster .. .. .	5	Lance .. .. .	3

In arranging the foregoing list of streets, all deaths occurring in Hospitals have been transferred to the streets from whence the patients were removed.

List of Streets in the City wherein Three or more Deaths from  
Diarrhœa occurred during the year 1897.—*Continued.*

STREETS.	No. of Deaths.	STREETS.	No. of Deaths.
Landseer Road .. .. .	3	Robson .. .. .	3
Latham .. .. .	3	Rockbrook .. .. .	3
Laxey .. .. .	4	Rose Vale .. .. .	7
Lemon .. .. .	4	Roscommon .. .. .	3
Leta .. .. .	5	Roxburgh .. .. .	4
Leyden .. .. .	3	Ruskin .. .. .	4
Linton .. .. .	3	Rydal .. .. .	4
Luke .. .. .	3	Salisbury .. .. .	7
Luther .. .. .	3	Sand .. .. .	3
Mann .. .. .	9	Sessions Road .. .. .	5
Moon .. .. .	3	Scotland Road .. .. .	4
Naylor .. .. .	3	Silvester .. .. .	5
Nesfield .. .. .	3	Skirving .. .. .	3
Netherfield Road North .. .. .	5	Smithdown Lane .. .. .	3
Nimrod .. .. .	4	Spencer .. .. .	4
Oliver .. .. .	3	Stanley Road .. .. .	3
Opie .. .. .	5	Stitt .. .. .	6
Paget .. .. .	3	Stonewall .. .. .	3
Park Road .. .. .	3	Summerseat .. .. .	3
Parliament .. .. .	3	Teulon .. .. .	4
Penton .. .. .	3	Tiber .. .. .	3
Phythian .. .. .	4	Tillard .. .. .	3
Portland .. .. .	6	Torr .. .. .	3
Prince Edwin Lane .. .. .	4	Travers .. .. .	3
Prince Edwin .. .. .	7	Vauxhall Road .. .. .	5
Rathbone .. .. .	6	Vesuvius .. .. .	3
Reading .. .. .	4	Vickers .. .. .	3
Regent .. .. .	4	Walpole .. .. .	3
Richmond Row .. .. .	5	Walton Lane .. .. .	3
Rishton .. .. .	4	Windsor .. .. .	4
Ritson .. .. .	3	Wolfe .. .. .	7
Robsart .. .. .	3		

In arranging the foregoing list of streets, all deaths occurring in Hospitals have been transferred to the streets from whence the patients were removed.



## OTHER ZYMOTICS.

The following table indicates the localities in which deaths from other forms of Zymotic disease occurred during the year :—

DISTRICTS AND WARDS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Puerperal Fever.		Other Zymotics.		YEAR. Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Scotland .. .. .	4	..	..	1	2	3	2	1	..	1	6	3	23
Exchange .. .. .	2	2	3	2	3	6	..	1	..	2	1	1	23
Abercromby .. .. .	5	1	1	3	6	5	2	1	..	2	3	..	29
Everton .. .. .	5	1	..	..	4	6	1	5	..	7	14	4	47
Kirkdale .. .. .	5	2	..	1	4	3	..	2	..	6	9	6	38
West Derby .. .. .	2	5	2	..	1	4	1	6	..	4	3	3	31
Toxteth .. .. .	7	10	3	2	4	5	4	11	..	..	8	3	57
Walton .. .. .	2	3	..	3	1	2	3	..	..	1	8	8	31
West Derby (Rural) .. .. .	1	3	2	1	..	1	2	4	..	1	4	4	23
Wavertree .. .. .	..	1	..	..	1	..	..	1	..	..	1	1	5
Toxteth (Rural) .. .. .	2	..	2	..	..	1	2	..	..	1	3	1	12
Hospitals (Residences outside the City) .. .. .	2	..	..	..	2	1	1	..	..	..	6	..	12
City .. .. .	37	28	13	13	28	37	18	32	..	25	66	34	331

Deaths in Public Institutions are transferred to the Wards from whence the patients came.

ANNUAL AVERAGE NUMBER OF DEATHS FROM SIX OF THE PRINCIPAL ZYMOTIC DISEASES  
DURING EACH OF THE LAST THREE DECENNIAL PERIODS.

Years.	Small Pox.	Typhus.	Scarlet Fever.	Measles.	Whooping Cough.	Diarrhoea.
1866—75 .. ...	237·4	652·8	789·4	425·7	496·8	995·3
1876—85 ... ..	90·8	238·0	421·2	517·8	472·3	658·4
1886—95 ... ..	8·8	37·1	257·5	399·5	322·4	600·6
1896—97 ... ..	...	29·5	213·0	328·0	327·0	1166·5

ANNUAL AVERAGE NUMBER OF DEATHS FROM SIX OF THE PRINCIPAL ZYMOTIC DISEASES  
DURING EACH OF THE LAST THREE DECENNIAL PERIODS, DISTINGUISHING THOSE  
OF PERSONS ABOVE AND BELOW FIVE YEARS OF AGE.

YEARS.	SMALLPOX.		TYPHUS.		SCARLET FEVER.		MEASLES.		WHOPPING COUGH.		DIARRHŒA.	
	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.
1866-75 ...	141·7	95·7	* ...	* ...	187·7	601·7	14·4	411·3	9·9	486·9	105·7	889·6
1876-85 ...	62·5	28·3	* ...	* ..	137·0	284·2	35·4	482·4	18·6	453·7	61·9	596·5
1886-95 ...	6·2	2·6	† 33·2	† ·7	87·6	169·9	28·3	371·2	15·1	307·3	60·2	540·4
1896-97 ...	...	...	29·0	·5	59·5	153·5	15·5	312·5	11·0	316·0	78·5	1088·0

\* During these years the ages at death from Typhus were not differentiated.  
† During the eight years, 1888-95.



The following table shows the annual average death rate, per 100,000 of the population, during each of the last three decennial periods, and during 1896-7, from the undermentioned Zymotic Diseases :—

DISEASES.	1866-1875.	1876-1885.	1886-1895.	1896-7.
Typhus ... ..	132·1	43·0	7·1	4·5
Small Pox ... ..	48·0	16·3	1·5	...
Scarlet Fever ... ..	159·9	76·2	49·6	33·1
Measles ... ..	86·1	93·6	77·0	51·0
Whooping Cough ...	100·5	85·4	62·1	50·9

#### TUBERCULAR DISEASES.

These diseases are associated with insanitary surroundings, and with conditions of life which tend to lower the general health. Improved sanitation is accompanied by a diminished mortality from these forms of disease, as the accompanying table, which relates to the last three decades, indicates :—

	1866-1875.	1876-1885.	1886-1895.	1896-7.
Annual Average Death-rate per 100,000 of the population, at all ages, from all forms of Tuberculosis ... ..	430·8	349·8	309·8	258·2
Annual Average Death-rate per 100,000 of the population above 5 years of age from Phthisis ... ..	362·8	278·6	244·4	208·4
Annual Average Death-rate per 100,000 of the population below 5 years of age from :— Tabes Mesenterica    } Hydrocephalus        } Scrofula                }	637·1	597·3	539·1	403·0

The group of Tubercular Diseases includes Phthisis, Scrofula, Tabes Mesenterica, and Hydrocephalus. They occasioned 1,644 deaths in the City of Liverpool during the year 1897.

## DEATHS FROM PHTHISIS.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.		M.	F.	TOTAL
						M.	F.	M.	F.	M.	F.	M.	F.			
Scotland	..	..	..	..	..	23	15	20	24	19	14	11	13	73	66	139
Exchange	..	..	..	..	..	29	12	30	13	14	12	22	11	95	48	143
Abercromby	..	..	..	..	..	20	10	10	10	19	16	11	7	60	43	103
Everton	..	..	..	..	..	33	24	21	29	17	8	32	25	103	86	189
Kirkdale	..	..	..	..	..	17	15	16	4	13	11	22	13	68	43	111
West Derby	..	..	..	..	..	18	20	23	30	23	17	24	19	88	86	174
Toxteth	..	..	..	..	..	27	23	26	14	22	20	23	16	98	73	171
Walton	..	..	..	..	..	13	4	7	6	8	9	10	3	38	22	60
West Derby (Rural)	..	..	..	..	..	4	6	5	3	4	3	7	2	20	14	34
Wavertree	..	..	..	..	..	2	3	3	..	1	5	2	1	8	9	17
Toxteth (Rural)	..	..	..	..	..	4	3	4	4	5	3	2	5	15	15	30
Hospitals (Residences outside the City)	..	..	..	..	..	7	3	9	5	9	4	5	7	30	19	49
City	..	..	..	..	..	197	138	174	142	154	122	171	122	696	524	1220

## AGES AT DEATH.

Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 and upw'ds.	All Ages.
8	11	18	26	35	84	233	313	296	128	68	1220

Deaths in Public Institutions are transferred to the Wards from whence the patients came.

## DEATHS FROM OTHER TUBERCULAR DISEASES.

DISTRICTS AND WARDS.							Scrofula.		Tabes Mesenterica.		Hydrocephalus.		YEAR.		
							M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .. .. .	..	..	..	..	..	..	2	4	7	8	9	8	18	20	38
Exchange .. .. .	..	..	..	..	..	..	4	2	4	2	8	5	16	9	25
Abercromby .. .. .	..	..	..	..	..	..	9	6	7	1	11	2	27	9	36
Everton .. .. .	..	..	..	..	..	..	15	14	16	12	12	12	43	38	81
Kirkdale .. .. .	..	..	..	..	..	..	9	3	3	1	6	4	18	8	26
West Derby .. .. .	..	..	..	..	..	..	13	6	7	10	7	12	27	28	55
Toxteth .. .. .	..	..	..	..	..	..	14	9	5	13	16	10	35	32	67
Walton .. .. .	..	..	..	..	..	..	4	3	6	2	5	3	15	8	23
West Derby (Rural) .. .. .	..	..	..	..	..	..	8	5	3	5	4	5	15	15	30
Wavertree .. .. .	..	..	..	..	..	..	1	1	..	1	1	3	2	5	7
Toxteth (Rural) .. .. .	..	..	..	..	..	..	2	2	..	4	6	4	8	10	18
Hospitals (Residences outside the City) .. .. .	..	..	..	..	..	..	10	4	2	..	1	1	13	5	18
City .. .. .	..	..	..	..	..	..	91	59	60	59	86	69	237	187	424

Deaths in Public Institutions are transferred to the Wards from whence the patients came.



The following table indicates the number of deaths from Cancer during the last six years, and the part of the body affected by the disease :—

DISEASE.	1892.			1893.			1894.			1895.			1896.			1897.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Cancer of Stomach and Bowels	52	39	91	43	52	95	52	44	96	85	73	158	81	56	137	86	126	212
„ Liver . . . . .	14	16	30	16	24	40	12	30	42	36	24	60	33	41	74	24	31	55
„ Urinary and Generative Organs . . . .	8	57	65	8	73	81	9	70	79	12	112	124	7	103	110	10	94	104
„ Breast . . . . .	..	32	32	..	39	39	..	34	34	..	46	46	2	54	56	..	45	45
„ Head and Face . . . .	7	3	10	13	6	19	13	5	18	19	4	23	15	3	18	12	6	18
„ Tongue, Neck, and Throat . . . . .	23	9	32	20	5	25	35	3	38	35	9	44	47	11	58	39	9	48
„ Other parts of the Body . . . . .	11	13	24	12	8	20	9	9	18	13	9	22	6	11	17	8	5	13
„ Parts not specified ..	7	12	19	12	10	22	6	14	20	15	10	25	12	13	25	11	8	19
Total . . . . .	122	181	303	124	217	341	136	209	345	215	287	502	203	292	495	190	324	514

The following table shows the death rate per 1,000 of the population, and the number of deaths from Fever and Diarrhœa during the last fourteen years :—

Year.	Death Rate per 1,000 of Population.	Deaths from Diarrhœa.	Deaths from Fever.		
			Typhus.	Typhoid.	Continued.
1884	*26·6	841	77	112	16
1885	*25·6	422	71	95	16
1886	*26·1	781	47	140	11
1887	*26·4	619	52	130	12
1888	*23·1	431	32	125	4
1889	*24·9	575	45	167	...
1890	*27·5	468	23	99	• 1
1891	26·9	330	37	92	2
1892	24·7	415	18	111	2
1893	27·3	866	44	221	5
1894	23·8	503	50	248	7
†1895	25·4	1,108	24	197	4
1896	21·9	851	36	166	2
1897	23·4	1,482	23	145	5

\* Calculated on corrected population as per Census Returns of 1891.

† City Boundaries extended.

Mr. Plummer, M.A., F.R.A.S., Astronomer to the Mersey Docks and Harbour Board, has kindly supplied the following tables relating to Meteorological observations made by him at the Liverpool Observatory, Bidston :—

### LIVERPOOL OBSERVATORY, BIDSTON, BIRKENHEAD.

Latitude  $53^{\circ} 24' 5''$  N.; Longitude  $3^{\circ} 4' 20''$  W.

Height above the Mean Level of the Sea, 201 feet.

Year and Month, 1897.	Barometer. Mean.	Temperature. Mean.	Rainfall. Mean.	No. of days on which 0·01 ins. or more rain fell.	Mean Monthly Humidity. Complete Satur- ation equal 100.
	Inches.	Degrees.	Inches.		
January .....	29·913	35·2	1·230	15	85
February .....	30·028	42·5	2·072	18	85
March .....	29·566	43·9	2·348	21	77
April .....	29·833	45·1	2·256	16	74
May .....	29·963	50·7	1·050	14	69
June .....	29·999	58·5	2·674	16	77
July .....	29·998	61·4	0·688	8	73
August ... ..	29·750	61·5	3·583	24	73
September .....	29·958	54·0	4·189	14	78
October .....	30·133	51·2	1·713	11	79
November .....	30·152	46·8	3·701	13	83
December .....	29·822	41·8	3·076	19	83

### DIFFERENCES FROM THE AVERAGE QUANTITIES OBSERVED DURING THE LAST 30 YEARS.

1897.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees.	Degrees.	Inches.	Inches.
January .....	..	0·011	..	3·8	..	0·907
February .....	0·073	..	2·0	..	0·450	..
March .....	..	0·342	1·9	..	0·626	..
April .....	..	0·071	..	2·1	0·671	..
May .....	..	0·004	..	1·4	..	0·788
June .....	0·011	..	0·6	..	0·680	..
July .....	0·079	..	0·9	..	..	2·292
August .. ..	..	0·162	1·4	..	0·718	..
September .....	0·027	..	..	2·4	1·042	..
October .....	0·274	..	2·2	..	..	1·937
November .....	0·274	..	3·3	..	0·973	..
December .....	..	0·052	2·1	..	0·429	..

### OBSERVATIONS OF VELOCITY OF WIND.

1897.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date of Maximum Velocity.	Minimum Hourly Velocity.	Date of Minimum Velocity.
	Miles per hr.	Miles.		Miles.	
January ..	16·3	57	Jan. 25	0	Jan. 12, 18
February ..	16·5	63	Feb. 20	0	Feb. 6, 7, 10, 16
March ..	21·9	59	Mar. 27	1	Mar. 7, 20, 31
April ....	17·4	42	April 18	1	April 8, 10, 20, 28, 29
May ....	16·0	43	May 4, 10	0	May 25
June ....	14·1	59	June 16	0	June 5
July ....	15·7	41	July 4	0	July 10, 11
August ..	14·6	36	Aug. 30	1	Aug. 7, 18
September ..	16·5	49	Sept. 4	0	Sept. 12
October ..	14·9	43	Oct. 11	1	Oct. 13, 20
November ..	14·2	70	Nov. 28	0	Nov. 23
December ..	20·6	55	Dec. 9, 11	1	Dec. 3





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# SANITARY ADMINISTRATION.

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## SANITARY ADMINISTRATION.

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For the purpose of carrying out the requirements of the various Sanitary Acts of Parliament, the following staff of the Medical Officer of Health's Department has been employed during the year :—

*Chief Sanitary Inspector	...	...	...	...	1
*Deputy Sanitary Inspector	...	...	...	...	1
*Prosecuting Sanitary Inspectors	...	...	...	...	7
*Inspectors for General Sanitary Purposes	...	...	...	...	28
Female Inspectors for General Sanitary Purposes.....					5
§Inspectors of Meat and Animals	...	...	...	...	5
„ under the Diseases of Animals Act	...	...	...	...	2
** „ of Fish and Fruit	...	...	...	...	3
Inspector under the Sale of Food and Drugs Act	...	...	...	...	1
*Inspectors „ Workshop and Shop Hours Act...					3
† „ , Smoke	...	...	...	...	3
‡ „ , Ambulance...	...	...	...	...	4
„ , Disinfecting	...	...	...	...	7
Superintendents of Disinfecting Apparatus	...	...	...	...	2
Chief Inspector for Common Lodging and Sub-let Houses	...	...	...	...	1
Inspectors for Common Lodging and Sub-let Houses...					12
Inspector for Canal Boats	...	...	...	...	1
* „ „ Bakehouses	...	...	...	...	1
*Inspectors for Cowsheds and Milkshops	...	...	...	...	2
Notice Servers	...	...	...	...	3
Permanent Clerical Staff	...	...	...	...	21
Temporary Assistants	...	...	...	...	2

Officers are selected for these positions whose previous training and occupation have been such as to fit them for the special duties they are called upon to discharge. Those marked \* are required to hold the Certificate of the Sanitary Institute of Great Britain ; those marked † have Marine Engineers' First Class Certificates, and the ‡ Superintendent Ambulance Inspector holds Sanitary Certificate, and also the Certificate of St. John's Ambulance Association. § Butchers by trade. \*\* Fish-mongers by trade.



## NUISANCES PREJUDICIAL TO HEALTH.

There is a still further increase in the number of matters upon which the advice and assistance of the Health Department have been sought during the year. The applications made by residents in the City were 8,852. In many instances complaint was made to the Department only after repeated requests addressed to the persons causing or allowing the nuisance, or to agents or owners of property, had been ignored. Generally speaking, these complaints arise in connection with jerry-built property. A great deal of the time of the Inspectors was taken up by these special examinations.

Requests to examine large and important public buildings and offices have been fewer than in the last few years, but applications to examine highly-rented dwelling-houses have been very numerous, and the application of the smoke test has in many cases brought to light gross defects in the drainage system.

A very widespread nuisance was occasioned from time to time by the London and North-Western Railway Company discharging refuse gas liquors into the sewers from their dépôt at Edge Hill Station. The occupants of dwelling-houses were much annoyed and alarmed by this nuisance. It became necessary, ultimately, to issue a summons, and on a pledge being given that the matter would not occur again, a nominal penalty was imposed by the Stipendiary Magistrate on 6th October. In December, however, the offence, a very grave one, was repeated, and a summons was again issued against the defendants, who were again convicted and fined.

The following table shews the character of the proceedings taken to abate nuisances :—

		<u>1897.</u>	<u>1896.</u>
Number of Complaints made by Inhabitants	... ..	8,852	7,993
„ Nuisances discovered on above complaints	... ..	17,131	15,988
„ „ „ house to house inspection	... ..	67,809	57,999
„ Notices issued	... ..	44,936	39,796
„ Notes to complainants	... ..	4,053	4,006
„ „ sent to comply with notices	... ..	6,886	5,367
„ Nuisances re-inspected	... ..	119,405	99,100
„ „ abated on re-inspection	... ..	64,799	55,320

NUISANCES PREJUDICIAL TO HEALTH.—(*Continued*).

	1897.	1896.
Number of Drains repaired ... ..	30,156	27,701
„ Ashpits „ ... ..	1,632	1,990
„ Closets „ ... ..	25,946	18,930
„ Water Closet Conversions ... ..	74	132
„ Spouts fixed and repaired ... ..	1,189	1,126
„ Places from which animals have been removed	267	280
„ Offensive Matter removed from premises ...	142	230
„ Stagnant Water ... ..	405	509
„ Dilapidated Houses ... ..	227	325
„ Premises supplied with water ... ..	4,700	4,051
„ Chimneys repaired to abate smoke nuisances ...	55	39
„ Cellar Rails repaired ... ..	6	7
„ Informations laid ... ..	1,151	989
„ Fined ... ..	286	237
„ of Magistrates' Orders ... ..	534	404
„ Acquitted or Withdrawn ... ..	331	348
Amount of Fines and Costs ...	£296 2 7	£220 1 6

## SERVICE OF NOTICES UNDER THE PUBLIC HEALTH ACT, &amp;c.

The Health Committee had under their consideration during the year the difficulties which arose from time to time owing to delay in stripping the wall-paper from the walls of infected rooms, this work having been looked upon under the Liverpool Sanitary Act of 1846 as the duty of the owner of the property.

The Committee felt that in dealing with infection, measures involving the least delay are the best, and investigation into the matter made it clear that time would be saved and efficiency ensured if the work were done by the Medical Officer's staff.

The Committee therefore authorised the Medical Officer of Health to make arrangements for this to be carried out, so that in future owners of property should be absolved from all responsibility in the case of houses under a rental of £30 per annum.

As soon as the infected wall-paper has been stripped, an intimation of the fact is sent to the owner.



A deputation of the Liverpool Land and Houseowners' Association, which waited upon the Committee in the early part of the year, laid stress upon the advantages likely to follow action of the kind, and the deputation also urged that general sanitary notices should not be served upon owners, but upon tenants, who, the deputation considered, were responsible for the defects which occasioned insanitary conditions.

This latter point calls for a few words of comment.

From time to time the representatives of the Liverpool Land and Houseowners' Association have complained of the service of sanitary notices upon their members, alleging that such service is frivolous, vexatious, and unnecessary. The Association have repeatedly been invited to quote any single instance in which an unnecessary notice has been served upon any one of their members, but hitherto they have been unable to indicate any such case in support of their allegation.

The service of notices relating to sanitary requirements is regulated by the terms of various general and local Acts of Parliament, Bye-laws, etc. Under the Public Health Act, 1875, notices to abate nuisances and remove insanitary conditions are served upon the owner if the cause of the nuisance is a structural defect, and upon the occupier if it arises from any other cause. If, for example, the unhealthy condition arises from want of sanitary conveniences, or is obviously not caused by the negligence of the occupier, the notice is served upon the owner; this is also done in the case of defective and choked drains requiring structural work or skilled labour beyond the means of an occupier. Repairs to defective ashpits, roofs, spouts, etc., where such defects are prejudicial to health, are also served upon owners, as directed by the Local Sanitary Acts.

Notices are served upon occupiers when nuisances are caused by keeping of animals, accumulations of filth, deposits of offensive matter, overcrowding, or other cause obviously owing to the default of the occupier.

With regard to the illegal occupation of cellar dwellings, the owner of the premises, the tenant of the premises, and the occupier of the cellar, all receive notices, for sufficiently plain reasons.

Under the Local Sanitary Act notices to cleanse filthy dwellings are served either upon the owner or the occupier, the proceedings varying with special circumstances; the occupiers receive notices in all cases to cleanse floors, woodwork, and washable surfaces, also walls and ceilings of their dwellings, provided that they have been cleansed by the owner within eighteen months, and were clean at the commencement of the tenancy.



In cases where the house is sub-let, the occupier receives notice, and the owner is only called upon once in three years.

Lime is given and brushes are lent to the inhabitants of poor districts to enable them to cleanse their houses.

When the house has been let in a filthy condition, and in all instances other than those referred to, notice is served upon the owner. The owners are called upon once yearly to limewash the exteriors of courts, but during the summer months all courts and alleys having covered entrances are specially washed and hosed down by the scavengers. It is almost unnecessary to say that a large amount of the inspectors' time is taken up by supervising this work.

Under the Factory and Workshops Act, notices to provide adequate lavatory accommodation, to cleanse workshops, etc., are served upon the employer, who, generally speaking, is the occupier.

It is doubtful whether the Land and Houseowners' Association do actually express the views of the general body of property owners, a very large proportion of whom keep their property in a sanitary condition, and this class of property seldom calls for the interference of the inspector. On the other hand, an entirely different section of property owners systematically neglect their property, allowing insanitary conditions to exist until the interference of the Health Department, supplemented from time to time by orders from the magistrate, takes place.

Large numbers of complaints are made by residents as to the insanitary condition of the property which they occupy, and a very considerable number of these applications are made after more or less frequent complaints to the owner have been ignored. During the year 1897 no less than 8,852 complaints were made, some of them in respect to large and important premises, but the great bulk arising in connection with ill-constructed and jerry-built property.

There is no reason to doubt that a great many owners pay no attention whatever to the sanitary requirements of their property, but leave the matter until notices under the Sanitary Acts of Parliament are served upon them, and even after that, compliance with the notice is often delayed until it becomes necessary to obtain a magistrate's order or to take other proceedings to compel the necessary work to be done. In other words, matters are left to the sanitary inspector which ought to be attended to by the owners themselves.

If agents who deal with large quantities of property would adopt the system of having it from time to time supervised by a competent tradesman, the necessity for the service of notices would be lessened, or entirely obviated. Those owners and agents who adopt this course, do so with satisfactory results to everybody concerned.

A very large number of sanitary notices are served upon owners in respect to what is known as "insanitary property." This property is, as a class, defective in structure, and allowed by the owners to fall into a condition of ruinous dilapidation. As a consequence, the owners are reluctant to meet sanitary necessities or to abate common nuisances in regard to it. Thus, in connection with the 890 houses last reported to the Grand Jury by the Medical Officer, no less than 779 notices requiring the abatement of nuisances more or less flagrant were served during last year, and the Medical Officer estimates that something like 8,000 notices were served during the year upon owners of property of this character.

Owners would do well to demolish property such as this, and erect suitable habitations upon the site. By thus co-operating with the Insanitary Property Committee they would rid themselves of the annoyance of receiving notices, and remove centres of disease and degradation from the City.

The class of property in question is well illustrated by the accompanying photographs. (See page 166.)

HOUSE TO HOUSE VISITATION.

				1897.	1896.
Number of Inspections of Street Houses ...	...	...	...	13,637	12,316
„ Street Houses found Clean ...	...	...	...	11,172	10,844
„ „ „ Dirty ...	...	...	...	2,465	1,472
„ Apartments in Street Houses Examined ...	...	...	...	63,010	52,941
„ Inspections of Court Houses ...	...	...	...	2,628	2,818
„ Court Houses found Clean ...	...	...	...	1,666	2,429
„ „ „ Dirty ...	...	...	...	962	389
„ Apartments in Court Houses Examined ...	...	...	...	7,705	8,108
Total Number of Houses Examined and Re-inspected ...	...	...	...	23,916	20,525

## DIRTY HOUSES.

	<u>DIRTY HOUSES.</u>	<u>1897.</u>
Number of Dirty Street Houses Inspected ... ..	...	2,465
" " Court " ... ..	...	962
" " Cellars Inspected ... ..	...	554
" " Houses and Cellars Re-inspected ... ..	...	3,930
" Notices to Owners to cleanse Dirty Houses... ..	...	3,565
" " Occupiers to Whitewash Dirty Houses... ..	...	316
" " Owners to Whitewash Exteriors of Courts ... ..	...	1,268
" Informations ... ..	...	43
" Fined ... ..	...	21
" Acquitted or Withdrawn ... ..	...	22
		<hr/>
Amount of Fines and Costs ... ..	...	£13 9s.



COURT AND ALLEY EXAMINATIONS.

		<u>1897.</u>	<u>1896.</u>
Number of Visits to Courts and Alleys	.. .. .	73,026	69,128
„ Closets found Dirty, but Cleansed by Officer's Instruction		73,008	69,962
„ Informations.. .. .		18	35
„ Fined .. .. .		17	23
Amount of Fines and Costs	.. .. .	£2 7 6	£2 15 0

Special and systematic visits to courts and alleys are made with the object of ensuring the cleanliness of the domestic offices and the surface of the courts. The aim is to keep the courts and alleys uniformly clean throughout the week, and with this view the district inspectors are instructed that every tenant in each court is in turn to be held responsible for the cleanliness of the court for a period of one week; the inspector records in his visiting book whose turn it is, and duly informs that tenant. Failing compliance with his requirements, an information is laid under a bye-law of the Local Sanitary Act.

The stipendiary magistrate has rendered great help to the department by imposing a small fine in those cases in which a prosecution became necessary. There is a marked improvement in the condition of the courts, and also in the apparent willingness of the people to cleanse them. The attention of the officer is, however, very necessary, since when the visits are lessened the filthy habits of the people soon lead to a recurrence of the dirty conditions.

The courts and alleys continue to decrease in number, owing to the demolition of low-class property for the extension of business premises, or to the removal of insanitary property by the Insanitary Property and Artizans' Dwellings Committee. The number of courts and alleys scheduled for inspection in 1890 was 2,165, in 1895 it had fallen to 1,660, and in 1897 it had further fallen to 1,466.

During the year all courts and alleys having covered entrances were specially washed and hosed down by the scavengers.



EXAMINATION OF CELLAR DWELLINGS.

	<u>1897.</u>	<u>1896.</u>
Number of Street Cellars inspected .. .. .	6,139	3,028
,,       ,,       found empty . . . . .	99	65
,,       ,,       used for Lumber, &c. . . . .	1,750	956
,,       ,,       found illegally occupied . . . . .	126	80
,,       ,,       ,,       legally       ,,       . . . . .	4,164	1,927
Notices issued to Owners . . . . .	250	130
,,       ,,       Occupiers . . . . .	133	79
Informations against Street Cellar Owners . . . . .	3	2
Fined . . . . .	1	1
of Informations against Street Cellar Occupiers . . . . .	1	2
Fined . . . . .	—	2
of Court Cellars inspected . . . . .	412	286
,,       ,,       found empty . . . . .	64	19
,,       ,,       used for Lumber, &c. . . . .	216	204
,,       ,,       illegally occupied . . . . .	16	7
,,       ,,       legally       ,,       . . . . .	116	56
,,       ,,       and Street Cellars found dirty . . . . .	505	232
Informations against Court Cellar Owners . . . . .	6	5
Fined . . . . .	5	5
of Informations against Court Cellar Occupiers . . . . .	4	1
Fined . . . . .	3	—
		<hr/>
Amount of Fines and Costs ... ..	£4 15 6	£4 1 0

The total number of cellar dwellings at present upon the register approximates to 8,000. A great many of these are untenanted, and are not likely to be re-occupied as dwellings.

The number of cellars filled in by the Health Committee, free of charge to the owners, during the year was 78, and the total filled in during the last ten years was 862.

The Building Surveyor has kindly supplied the following table :—

NUMBER OF HOUSES ERECTED AND TAKEN DOWN DURING YEAR ENDING  
31ST DECEMBER, 1897.

DISTRICTS AND WARDS.							Number Erected.	Number Taken down.
Scotland ...	...	...	...	...	...	...	34	120
Exchange ...	...	...	...	...	...	...	92	388
Abercromby ...	...	...	...	...	...	...	...	71
Everton ...	...	...	...	...	..	...	1	2
Kirkdale ...	...	...	...	...	...	...	84	...
West Derby .	...	...	...	...	...	...	442	...
Toxteth ...	...	...	...	...	...	...	43	135
Walton ...	...	...	...	...	...	...	270	...
West Derby (Rural)	...	...	...	...	...	...	149	18
Wavertree ...	..	.	...	...	...	...	330	3
Toxteth (Rural)...	...	...	...	...	..	...	211	1
Total ...							1,656	738

The City Engineer has kindly supplied the following :—

Number of cellars filled in during 1897 .. ..	78
„ „ „ the last 10 years .. ..	862

SEWER VENTILATION TO END OF 1897.

Number of 9-inch by 6-inch, 9-inch, 6-inch, 6-inch by 4-inch, 4-inch by 4-inch, 4-inch, and 3-inch Iron Pipe Ventilating Shafts .. ..	1,083
Number of Street Ventilating Manhole Covers and Gratings .. ..	6,785

REFERENCES TO OTHER DEPARTMENTS.

			<u>1897.</u>	<u>1896.</u>
Referred to City Engineer...	...	...	2,352	1,957
„ Building Surveyor	...	...	1,399	1,223
„ Water Engineer	...	...	5,912	5,237
„ Veterinary Superintendent	...	...	2,428	1,664
„ School Board	...	...	14,975	12,484

The references to the Water Engineer comprise, mainly, defective fittings, resulting in waste of water ; also cases in which the supply was insufficient, owing to various accidental causes.

The references to the School Board chiefly relate to children from infected houses who are attending school.

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REFERENCES FROM OTHER DEPARTMENTS.

			<u>1897.</u>	<u>1896.</u>
Received from the City Engineer	...	...	13,887	12,632
„ Veterinary Superintendent			5,870	4,788
„ Water Engineer	...	...	3,816	2,322
„ Lodging-house Inspectors.			9,022	7,386

The references from other Departments mainly comprise insanitary conditions discovered by officers belonging to those departments, but with which it is not within their province to deal. The City Engineer's Department continues to report defects in private drains in the incorporated areas brought to light by flushing.



OFFENSIVE TRADES.

Applications for permission to carry on the following offensive trades were made during the year, and a report by the Medical Officer of Health on each application was submitted to the Health Committee.

Premises.	Business.	Granted.	Refused.	Date 1897.
31, Bispham Street ...	Tripe Dressing ... ..	—	1	28th Jan.
11 & 13, Douro Place	Bone Boiling and Dripping Factory .. ...	1	—	28th Jan.
3 & 5, Cropper Street	Tripe Dressing ... ..	—	1	25th March
12, Pumpfields ..	„ „ ... ..	1	—	10th June
12, „ ...	Bone Boiling ... ..	1	—	29th July
21, „ ...	Fat Melting and Oil and Tallow Refinery ...	1	—	2nd Sept.

In the cases in which permission was granted, conditions were imposed requiring that the premises be put in proper order to the satisfaction of the City Engineer and the Medical Officer of Health, that no public nor private nuisance be caused, and that the business be discontinued whenever the Council shall so require.

The number of inspections of premises where offensive trades are carried on was 748, as against 786 in 1896.

KNACKERS' YARD RETURNS.

	Horses Destroyed.	Horses taken in Dead.	Asses Destroyed.	Cows Destroyed.	Other Beasts.
Holme Street ... ..	1,312	1,416	46	62	—

MANURE STORES.

	1897.	1896.
Number of Visits ... ..	97	39

MANURE YARDS AND WHARVES.

	1897.	1896.
Number of Visits ... ..	522	557

PROCEEDINGS UNDER THE DISEASES OF ANIMALS ACT, 1894.

The Diseases of Animals Act relates in the main to certain diseases communicable amongst cattle, sheep and swine, and provides for the separation of diseased animals from healthy ones, and for the disinfection and cleansing of vessels, trucks, &c., in which animals have been carried.

The Board of Agriculture, under the powers of this Act, issue orders from time to time dealing with diseases of animals, or with their protection during transit. The Board also prescribes the manner under which animals may be imported or moved from place to place.

The accompanying table gives the statistics of the proceedings taken under the Act or under the Orders of the Board of Agriculture :—

	<u>1897.</u>	<u>1896.</u>
Number of Visits to Railway Stations, including inspections made on		
Sundays .. .. .	2,402	2,743
„ Inspections of pens .. .. .	86,216	94,281
„ found clean .. .. .	62,801	71,816
„ „ dirty and cleansed before being used .. .. .	23,415	22,465
„ Informations for dirty pens used before being cleansed ..	—	—
„ Inspections of Trucks .. .. .	36,368	35,983
„ found clean .. .. .	33,196	32,074
„ „ dirty and cleansed before being used, or leaving the		
City dirty .. .. .	3,172	3,909
„ Informations for dirty trucks used before being cleansed ..	1	—
„ Inspections of Horse Boxes .. .. .	636	617
„ found clean .. .. .	387	286
„ „ dirty and cleansed before being used, or leaving the		
City dirty .. .. .	249	330
„ Informations for dirty horse boxes used before being cleansed	—	1
„ Inspections of Vessels .. .. .	8,692	9,281
„ found clean .. .. .	3,376	4,050
„ found dirty and cleansed before being used, or going to Sea		
without cattle or cargo .. .. .	5,316	4,992
„ Informations for dirty vessels used before being cleansed ..	4	2

							<u>1897.</u>	<u>1896.</u>
Number of Inspections of Gangways	.	..	..	..	..	..	7,571	8,036
,, found clean	.	..	..	..	..	..	5,871	6,384
,, ,, dirty and cleansed before being used	..	..	..	..	..	..	1,700	1,652
,, Informations for not cleansing gangways	..	..	..	..	..	..	—	—
,, Informations for not disinfecting scrapings and sweepings..	..	..	..	..	..	..	—	1
,, Inspections of Lairage and Sale Yards	..	..	..	..	..	..	4,536	5,679
,, found clean	..	..	..	..	..	..	3,481	4,321
,, ,, dirty and cleansed before being used	..	..	..	..	..	..	1,055	1,358
,, Informations for dirty Lairages used before being cleansed	..	..	..	..	..	..	—	1
,, Informations for landing fittings without consent in writing of the Local Authority	..	..	..	..	..	..	2	1
,, ,, ,, landing broken fodder	..	..	..	..	..	..	—	—
,, ,, ,, carrying newly-shorn sheep on upper deck	..	..	..	..	..	..	—	1
,, ,, ,, not providing pens for animals on vessel..	..	..	..	..	..	..	—	1
,, ,, ,, neglecting to slaughter injured animals	..	..	..	..	..	..	—	1
,, ,, ,, neglecting to securely tie cattle	..	..	..	..	..	..	—	—
,, ,, ,, removing animals without a license	..	..	..	..	..	..	—	—
,, ,, ,, not providing sufficient ventilation to vessel	..	..	..	..	..	..	—	1
Total Number of Informations	..	..	..	..	..	..	7	10
Fined	..	..	..	..	..	..	7	8
Withdrawn	..	..	..	..	..	..	—	2
Amount of Fines and Costs							£29 19 0   £44 2 0	

#### INSPECTION OF SLAUGHTER HOUSES, &c.

						<u>1897.</u>	<u>1896.</u>
Number of Visits to Slaughter-houses made by Meat Inspectors	...	...	...	...	...	10,376	10,860
Number of Visits to Butchers' Shops made by Meat Inspectors	...	...	...	...	...	68,904	72,299
Number of Visits to Fish and Fruit Shops made by Fish Inspectors	...	...	...	...	...	34,710	37,239
Number of Visits to Poultry Depôts made by Fish Inspectors	...	...	...	...	...	149	221

#### FISH PLATFORMS.

						<u>1897.</u>	<u>1896.</u>
Number of Visits	...	..	...	...	...	24	25



RETURNS OF MEAT KILLED IN THE CITY SLAUGHTER-HOUSES, AND OF  
MEAT IMPORTED FOR SALE.

There was a slight decrease from the preceding year in the number of cattle slaughtered in the City Slaughter-houses, about 300 less being slaughtered than in the preceding year. There is also a decrease in the number of carcasses of cattle imported for sale; the total being 7,700 less than in the preceding year. With regard to sheep, there is an increase of over 26,000 in the number killed in the City, and an increase of about 35,000 in the number of carcasses imported for sale.

The decrease in the number of cattle slaughtered in, or of carcasses imported into the City Slaughter-houses, is explained by the practice of many butchers to purchase direct from the Abattoirs at Woodside, whilst a large number of dairy cows are, when intended for slaughter, sent out of the City.

STREET.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Dead Meat Imported for Sale.			
						Beasts.	Sheep.	Pigs.	Calves.
Abattoir.	4553	148380	..	13735	50443	49084	400034	452	1150
Back Butler Street .....	27	61	3	2	..	..	..	..	..
Back Castle Street .....	588	41	4	341	2	35	..	..	..
Back Mount Vernon Green..	349	3288	786	17	..	..	..	..	..
Cotter Street.....	22	14	..	6	2247	..	..	..	.
Corlett Street .....	47	1201	284	9	6	..	..	..	..
Crown Street.....	9	9	..	..	..	..	..	..	..
Darnley Street .....	..	..	..	..	2540	..	..	..	..
Edgware Street .....	31	556	160	..	..	..	..	..	..
Foley Street .....	..	..	..	..	7724	..	..	..	..
Gelling Street .....	175	1	..	195	..	..	..	..	..
Peel Street.....	31	549	241	15	46	..	..	..	..
Bevington Hill .....	1021	377	35	531	14	89	..	6	..
Byrom Street .....	..	..	..	..	755	..	..	..	...
Bolton Street.....	56	2859	1113	7	..	..	..	..	..
Back Commutation Row(1)..	..	..	..	1	..	..	..	..	..
„ „ (2) ..	228	1503	376	1	..	.	..	..	..
Carried forward .....	2584	10459	3002	1125	13334	124	..	6	..

RETURNS OF CATTLE KILLED IN THE CITY SLAUGHTER-HOUSES, AND OF  
MEAT IMPORTED FOR SALE.--Continued.

STREET.	Beasts.	Sheep.	Lambs	Calves	Pigs.	Dead Meat imported for Sale.			
						Beasts.	Sheep.	Pigs.	Calves
Brought forward .....	2584	10459	3902	1125	13334	..	..	6	..
Copperas Hill .....	..	..	..	..	13806	..	..	157	..
Finch Place .....	367	2099	830	6	..	..	..	..	..
Frederick Street .....	40	964	197	27	68	..	..	..	..
Norman Street . .....	..	..	..	..	2855	..	..	..	..
Norfolk Street .....	..	1535	556	..	3	..	..	..	..
Soho Street .....	..	..	..	..	2196	..	..	..	..
Upper Milk Street .....	..	..	..	..	7648	..	..	..	..
Salisbury Road, Walton....	57	145	122	37	26	..	..	..	..
West Derby Road, W. Derby	62	1427	202	2	56	..	..	..	..
„ Village „	..	..	..	..	..	..	..	..	..
Town Row „	2	321	85	4	58	..	..	..	..
Prescot Road, Knotty Ash..	5	412	169	3	35	..	..	..	..
101, High Street, Wavertree	5	24	6	9	13	..	..	..	..
105, „ „	59	292	102	6	8	..	..	..	..
Sandown Lane „	42	547	120	..	14	..	..	..	..
Derby Lane, Old Swan ....	..	721	156	..	4	..	..	..	..
Allerton Road, Wavertree..	626	3444	960	56	52	..	..	..	..
Total in Private Slaughter-houses.....	3849	22390	6507	1275	40176	124	..	163	..
Total in the City .....	8402	171270	6507	15010	90619	49208	400034	615	1150

PRECEDING YEAR.

Total in Private Slaughter-houses.....	4303	23414	9187	1530	35801	101	..	323	..
Total in the City .....	8668	144635	9187	14432	80448	56942	365178	590	222

There was only one application for transfer of licence of Slaughter-house during the year, viz., for Bevington Hill, which was granted on March 11th.

UNWHOLESOME MEAT, FISH, &c., SEIZED AND DESTROYED.

DATE.—1897.		Beef.	Veal.	Mutton.	Pork.	Poultry	Rabbits and Hares.	*Fish.	Shell fish.	Oysters.	Miscellaneous.
		Lbs.	Lbs.	Lbs.	Lbs.	Head		Lbs.	Bags.		
MARKETS.	{ St. John's .. ..	642	172	266	112	1852	3107	128771	166	12100	188 lbs. Tomatoes
	{ St. Martin's .. ..	286	..	..	1120	.	..	..	..	..	..
SLAUGHTER HOUSES.	{ Abattoir .. ..	95524	10872	11384	18000	15	..	..	..	..	..
	{ Back Castle Street ..	26970	2548	80	..	..	..	..	..	..	..
	{ Bevington Hill .. ..	35003	1875	264	100	..	..	..	..	..	..
	{ Bolton Street.. ..	..	..	40	..	..	..	..	..	..	..
	{ Copperas Hill .. ..	..	..	..	1095	..	..	..	..	..	..
	{ Gelling Street .. ..	1600	297	..	..	..	..	..	..	..	..
	{ Norman Street .. ..	..	..	..	420	..	..	..	..	..	..
	Athol Street .. ..	..	..	..	4	..	..	..	..	..	..
	Back Butler Street ..	..	..	70	..	..	..	..	..	..	..
	Bolton Street .. ..	..	..	..	..	..	..	..	..	..	Sweetmeats 498 lbs
	Cotter Street .. ..	..	..	..	868	..	..	..	..	..	..
	County Road .. ..	50	..	..	..	..	..	..	..	..	..
	Darnley Street .. ..	..	..	..	180	..	..	..	..	..	..
	Edge Hill Station ..	..	..	..	224	..	..	..	..	..	..
	Falkner Street .. ..	24	..	..	..	..	..	..	..	..	..
	Foley Street .. ..	..	..	..	280	..	..	..	..	..	..
	Fox Street .. ..	200	..	..	..	..	..	..	..	..	..
	Great Charlotte Street	30	..	55	..	51	22	3520	3	..	..
	Great Homer Street..	203	..	150	..	..	..	..	..	..	..
	James Street.. ..	..	..	..	..	..	30	..	..	..	..
	Jubilee Street .. ..	..	..	91	..	..	..	..	..	..	..
	Lime Street .. ..	162	..	..	336	..	..	..	..	..	..
Carried forward ..		160694	15764	12400	22739	1918	3159	132291	169	12100	



UNWHOLESOME MEAT, FISH, &c., SEIZED AND DESTROYED.—*Continued.*

DATE.—1897.	Beef.	Veal.	Mutton	Pork.	Poultry.	Rabbits and Hares.	Fish.	Shell fish.	Oysters.	Miscellaneous
	Lbs.	Lbs.	Lbs.	Lbs.	Head		Lbs.	Bags		
Brought forward ..	160694	15764	12400	22739	1918	3159	132291	169	12100	
Lodge Lane ..	70	..	..	..	..	..	..	..	..	..
Manesty Lane ..	..	..	..	..	..	..	46800	..	..	..
Mill Street ..	50	..	..	..	..	..	..	..	..	..
North Haymarket ..	..	..	..	..	..	..	..	..	..	{ 875 lbs. Pears 1125 „ Apples 1936 „ Tomatoes 700 „ Pomegranates
Park Road ..	369	..	45	..	..	..	..	..	..	
Peel Street ..	..	..	100	..	..	..	..	..	..	
Pitt Street ..	140	..	..	..	..	..	..	..	..	
Rathbone Street ..	320	..	..	60	..	..	..	..	..	..
Richmond Row ..	70	..	..	..	..	..	..	..	..	..
Robson Street ..	..	..	..	75	..	..	..	..	..	..
Roe Street ..	80	..	..	..	..	..	..	..	..	..
Rose Street ..	..	..	..	..	..	262	22265	..	..	..
Russell Street ..	120	..	..	..	..	..	..	..	..	..
Scotland Road ..	5174	..	2802	..	..	..	..	..	..	..
Smithdown Road ..	648	..	..	..	..	..	..	..	..	..
Soho Street ..	..	..	..	180	..	..	..	..	..	..
Stanley Road ..	140	..	..	..	..	..	..	..	..	..
Upper Milk Street ..	..	..	..	320	..	..	..	..	..	..
Upper Warwick Street	140	..	..	..	..	..	..	..	..	..
Walton Road ..	60	..	..	..	..	..	..	..	..	..
Wavertree Road ..	200	..	..	..	..	..	..	..	..	..
West Derby Road, Tue Brook.	70	..	70	..	..	..	..	..	..	..
Whitechapel ..	..	..	..	27	..	..	..	..	..	..
William Henry Street	200	..	..	..	..	..	..	..	..	..
Total .....	168545	15764	15417	23401	1918	3421	201356	169	12100	

The total amount of Meat and Fish found to be unfit for human food is equivalent to—

	Tons.	Cwts.	Qrs	Lbs.
Meat .. .. .	99	12	0	23
Fish .. .. .	89	17	3	8

and this does not include Fish removed as refuse by Veterinary Superintendent.

SMOTHERED AND INJURED CATTLE.

Beasts.	Sheep.	Pigs.	Number found good.	Number found bad.	Weight of Bad in pounds.
68	92	175	253	82	21,672

The Animals (Transit and General) Order compels the Master of the vessel to slaughter all seriously-injured animals forthwith. Such animals are slaughtered on board the vessel, and the carcasses removed to the abattoirs.

The amount of unwholesome meat which has been seized and destroyed during the year amounts to upwards of 99 tons.

The great bulk of this meat was not exposed for sale, and was dealt with under a Local Act, which does not require a Justices' order for its destruction.

The quantity of fish seized was in excess of the amount taken last year, and includes a large quantity of fresh fish which had gone bad in transit, and a large quantity of salt fish which had become tainted during transit or storage.

Police proceedings in respect to meat and fish were as follows :—

	<u>1897.</u>	<u>1896.</u>
Number of Informations in respect to Diseased Meat		
and Fish ... ..	18	4
,, Fined ... ..	12	3
,, sent to Gaol ... ..	—	—
Amount of Fines and Costs ... ..	£102 11 1	£46 19 0

	<u>1897.</u>
Number of carcasses seized during the year by Medical Officer of Health and Inspectors under section 116 of the Public Health Act ... ..	818
*Number of such carcasses condemned by Justices under section 117 of the Public Health Act ... ..	*4
Number of carcasses so condemned in consequence of the animal having suffered from Tuberculosis ... ..	114
Amount of Fines and Costs ... ..	£44 9s. 8d.

LICENSES TO KEEP PIGS.

No. of new applications to keep pigs on premises not previously licensed ... ..	15
,, granted ... ..	6
,, refused ... ..	6
,, in abeyance ... ..	3
Pigs applied for on the above applications ... ..	325
,, granted ... ..	118
Applications standing over from last year ... ..	6
,, now granted ... ..	5
,, refused ... ..	1
Premises now licensed ... ..	24
Pigs ... ..	388

\* The remainder were dealt with under a Local Act, which does not require a Justices' Order.

GLANDERS AND FARCY.

Veterinary examinations, by request of Board of Agriculture, of horses imported from the American Continent.

Horses Examined.	Horses found affected with		
	Glanders.	Pneumonia.	Strangles.
3,599	...	188	54

In addition to those referred to in the foregoing table, 7,697 horses, some of which were landed beyond the City boundaries, have been examined at the various Saleyards, with a view to the maintenance of the general health of the animals in the City.

Horses Examined.	Horses found affected with		
	Glanders.	Pneumonia.	Strangles.
7,697	...	...	...

The imported animals were on the whole in very good condition and the mortality small ; and no evidence of contagious disease was found.



GLANDERS AND FARCY.

The number of cases detected in 1897 show a very considerable decrease on those for 1896 ; but as compared with former years it is still large. Glanders and Farcy have been found to exist on 9 premises, 56 reports of suspicious cases were received, 117 animals were examined, and of these 15 were condemned and destroyed as being affected with Glanders and Farcy. Compensation was paid to the owners. On the 8th December, William Middlehurst was fined £5 and costs for causing a horse affected with Glanders to be led through the streets to the Knackers Yard, Holme Street.

Animals Examined.	Affected.	Suspicious.	Not Affected.
117	15	—	102

Total Number of Animals in Stables, &c., where the Disease occurred.	SLAUGHTERED.		Died.
	By Order of Owner.	By Order of Local Authority.	
76	3*	14	2†

\* One of these animals came from outside City boundary, viz. :—Melling.

† One of these was brought into City from Lunt.

LUNGS OF HORSES EXAMINED AT KNACKER'S YARD, HOLME STREET,  
SANDHILLS.

During the year 1897, the Veterinary Superintendent has caused to be examined the lungs of all horses sent to the above premises. In every instance where there was evidence of the disease manifested in the lungs, the owners of the animals were notified, and if within the City boundaries, the remainder of their studs were subjected to veterinary examination. In those cases where the existence of Glanders or Farcy was capable of detection during the life of the animal, proceedings were taken against the responsible persons. Of the total number of lungs examined, one was taken from a horse that was brought into the City from outside the City boundary and found to be affected.

Lungs Examined.	Glandered.	Not Affected.
2,578	4	2,574

PLEURO-PNEUMONIA.

There was no case reported during the year.

RABIES.

In conformity with the requirements of the Board of Agriculture, reports were sent to the Board in respect to five suspected cases of rabies.

*Post mortem* examinations were made by the Veterinary Inspectors during the year on 46 dogs, and none of them shewed signs of having been affected with rabies.

SWINE FEVER.

The following table shows the number of animals affected and the number in the herds slaughtered under the Swine Fever Order.

Total Number in Herds.	HEALTHY.		DISEASED.		Died.	Locality.	Remarks.
	Slaughtered.		Slaughtered.				
	By Order of Owners.	By Order of Board of Agriculture.	By Order of Owner.	By Order of Board of Agriculture.			
9	...	8	...	...	1	Dingle Bank, Dingle Lane	
2	...	1	...	...	1	Fulwood Park	
10	...	8	...	...	2	Sandfield Park, West Derby	
56	...	54	..	...	2	Knotty Ash	
60	...	56	..	...	4	Mill Lane, West Derby	
14	...	13	...	...	1	Clyde Road, Edge Lane	
7	...	4	...	2	1	Aigburth Vale	
158	...	144	...	2	12		



## COWSHEDS, DAIRIES, &amp;c.

In March last the new Regulations made by the Corporation in conformity with the Contagious Diseases Animals Acts, &c., came into force. Many Shippons and Dairies underwent structural alterations of a more or less extensive character to comply with these requirements.

**Statistics** respecting Licenses for Cattle, and Premises registered under Dairies, Cowsheds and Milkshops Orders.

LICENSES FOR COWS.

	1897.
No. of Applications to keep cows on premises not previously licensed...	33
„ „ in added area ... ..	32
„ „ in old „ ... ..	1
„ „ granted ... ..	26
„ „ in abeyance, alterations still in progress ... ..	5
„ „ cancelled (premises vacated) ... ..	2
„ Cows applied for on above applications ... ..	467
„ „ „ „ granted ... ..	377
„ Applications standing over from last year ... ..	39
„ „ now granted ... ..	25
„ „ in abeyance, alterations still in progress ... ..	9
„ „ void (premises vacated) ... ..	5
„ „ for transfer to fresh tenants of shippons which were previously licensed .. ...	47
„ Transfers granted... ..	34
„ „ in abeyance alterations still in progress ... ..	13
„ Applications to keep more cows than the number for which the license was originally issued ... ..	8
„ „ granted ... ..	6
„ „ refused ... ..	1
„ „ in abeyance... ..	1
„ of additional cows applied for ... ..	20
„ „ „ granted ... ..	14
„ Shippons existing within the City during 1896... ..	404
„ above ceased to be used during 1897 ... ..	24
„ new shippons added to register ... ..	73

[NOTE.—Of the above new Shippons only one is within the former City area.]

No. of Shippons now existing within the City ...	...	...	...	...	453
„ above in former City area ...	...	...	...	...	311
„ „ added „ ...	...	...	...	...	142
„ Cows within the City area (approximate) ...	..	...	...	...	5650
„ Shippons dealt with to comply with the present regulations ...	...	...	...	...	319
„ „ in former City area ...	...	...	...	...	247
„ „ in added „ ...	...	...	...	...	72
„ „ completed ...	...	...	...	...	176
„ „ now in progress and near completion ...	...	...	...	...	112
„ „ in abeyance (work not commenced) ...	...	...	...	...	23
„ „ closed ...	...	...	...	...	8

#### PARTICULARS OF THE SHIPPONS CLOSED.

No. of Shippons vacated, occupiers left for new premises ...	...	...	3
„ „ „ owing to alterations not being carried out ...	...	...	5

Of the total number of Shippons dealt with only three were altered without a notice being issued.

#### MILK SHOPS.

No. of Applications for registration ...	...	...	...	...	222
Of which Transfers were... ..	...	...	...	...	117
No. of above applications granted ...	...	...	...	...	155
„ „ refused ...	...	...	...	...	42
„ „ in abeyance, pending alterations ...	...	...	...	...	25

The applications standing over from last year pending alterations have been granted, with the exception of nine attached to Shippons, where the alterations are still in progress. Five of the premises have been vacated.

No. of Milk Shops on the Register at the end of 1896 ...	...	...	909
„ „ „ „ „ 1897 ..	...	...	988

#### ICE CREAM MAKERS AND VENDORS.

Forty-eight persons have made application for registration of their premises. Of this number nineteen applications have been refused, owing to the unsuitability of the premises; the remainder have all been served with notices setting forth the requirements.

SHIPPON INSPECTION.

						<u>1897.</u>	<u>1896.</u>
Number of Inspections of Shippons	...	...	...	...	...	4,375	3,126
„ found Incorrect	...	...	...	...	...	1,072	1,508
„ Informations	...	...	...	...	...	19	7
„ Fined	...	...	...	...	...	12	7
<hr/>							
Amount of Fines and Costs	...	...	...	...	£20 10 0	£9 17 6	

LEAVELOOKERS' VISITS TO SHIPPONS FOR THE PURPOSE OFEXAMINING COWS.

No. of Visits.	No. of Cows Examined.	No. found Healthy.	No. found ill and referred to the Veterinary Inspector.
1,205	13,965	13,889	76

DAIRIES AND MILK SHOPS INSPECTION.

						<u>1897.</u>	<u>1896.</u>
Number of Inspections of Dairies and Milk Shops	...	...	...	...	...	5,289	4,130
„ found Incorrect	...	...	...	...	...	1,414	508
„ Informations	...	...	...	...	...	11	4
„ Fined	...	...	...	...	...	8	1
„ Acquitted and Withdrawn	...	...	...	...	...	3	3
<hr/>							
Amount of Fines and Costs...	...	..	...	...	£9 7 0	£0 14 6	



## TUBERCULOSIS AND MILK.

Considerable attention has been attracted to the connection between the presence of the tubercle bacillus in milk and the infection of the consumer.

Many causes contribute to the spread of tuberculosis, and it is necessary, whilst endeavouring to trace one of them, that the relative importance of the rest should not be lost sight of.

There is no reason, moreover, to doubt that milk as an article of food, taken in the raw state, is responsible for the transmission of infecting organisms, which have a much more potent influence for mischief than the bacillus tuberculosus ; the dangers of infection from milk are by no means limited to the danger of infection from tuberculosis.

Although only the association of tuberculosis with the milk supply is now dealt with, some general observations upon the subject are desirable.

**Tuberculosis** is a disease occasioned by the growth and multiplication in the system, either of man or animals, of a microscopic organism, which is called the bacillus tuberculosus, or tubercle bacillus.

This organism is capable of being transmitted from persons or animals which are infected by it, to others. Tuberculosis is therefore under certain conditions a communicable, that is to say, an infectious disease.

In man the symptoms which accompany the growth and multiplication of the bacillus vary in accordance with the part attacked. In adults the most frequent seat of the disease is the lung, and under the name of Phthisis, or Consumption, its destructive influences are known to everybody. The terms Tabes Mesenterica and Tubercular Meningitis or Hydrocephalus, indicate the presence of the Tubercle Bacillus in the abdominal glands or membranes of the brain respectively. Certain other forms of the disease are included in the term Scrofula.

All of these forms of disease are due to the same cause, viz., the reception in the system and the growth and multiplication there of the tubercle bacillus.

Long before 1882, when this organism was discovered, it was well known that the diseases since proved to be produced by it were greatly influenced by sanitary conditions, and a knowledge of the circumstances which favour the growth and the multiplication of the bacillus afford an explanation of this.

It is a fact beyond dispute that insanitary surroundings, more especially those associated with dark, ill-ventilated dwellings, exclusion of sunlight, dampness of site, dust and dirt, together with habits of life or any other circumstance tending to lower general vitality, are favourable to the growth of the tubercle bacillus, and the presence under such conditions of one individual suffering from phthisis would serve as a focus for the dissemination of the disease. The expectoration of a person in advanced consumption contains the tubercle bacillus in great quantity ; this becoming dry and pulverised is blown about with other dust, and is liable to be inhaled or swallowed, or to settle upon and contaminate food, and in this way to infect persons whose condition is such as to make them favourable growing grounds for the organism.

So well is this recognised that it has even been proposed that tuberculosis, more especially phthisis, should be included in the list of diseases scheduled under the Notification Act, although the objections to such a course are very great.

The capability of the individual to resist the growth of this bacillus varies. In healthy and robust people and in those of strong constitution the powers of resistance are great, and even if, as is probably often the case, the bacillus be taken into the system, it does not find a favourable growing ground and is destroyed without doing harm.

The growth of the bacillus is checked by sunlight, ventilation, &c., hence the relative rarity of the disease in localities where abundance of sunlight and fresh air can find admission.

A person in advanced consumption is liable, unless care be exercised, to contaminate certain kinds of food by reason of dust from dried expectoration, milk being an especially favourable medium for the growth of germs would become dangerously contaminated by such dust.

It is probable that insanitary conditions of environment are mainly responsible for the propagation of tuberculosis, not only in man but in animals.

The erection in years gone by, in Liverpool and other great cities, of what is now known as "insanitary property," constituted an experiment upon a gigantic scale upon man, and has conclusively proved the influences of bad surroundings in the propagation of tuberculosis. It is not necessary to quote the evidence upon this point which accompanies the presentments of insanitary property, since this can be readily



referred to, but the effect of improved sanitation upon tubercular diseases in Liverpool is shown in the following table :—

	1866-1875.	1876-1885.	1886-1895.	1896-7
Annual Average Death-rate per 100,000 of the population, at all ages, from all forms of Tuberculosis ... ..	430·8	349·8	309·8	258·2
Annual Average Death-rate per 100,000 of the population above 5 years of age from Phthisis ... ..	362·8	278·6	244·4	208·4
Annual Average Death-rate per 100,000 of the population below 5 years of age from:—				
Tabes Mesenterica ... ..	637·1	597·3	539·1	403·0
Hydrocephalus ... ..				
Scrofula ... ..				

The fact that the lungs are the most frequent seat of Tuberculosis in adults may be taken as an indication that the bacillus commonly (though not always) finds its way into the body by inhalation.

With young children, on the other hand, the commoner form of Tuberculosis is tabes mesenterica, a circumstance which would lend colour to the view that in these cases the mode of reception of the bacillus is not necessarily by inhalation, but more probably by swallowing, *e.g.*, an otherwise healthy infant suckled by a tuberculous mother would be liable to become infected in this way.

The tubercle bacillus is destructive not only to the human race but also to certain animals, more especially those animals which are domesticated and confined by man. There is no reason to doubt that if domesticated animals are kept under healthy conditions, tuberculosis amongst them will be rare, but conditions which experience has shown to be notoriously prejudicial to man are equally prejudicial to animals.

No domesticated animal is more closely or more continuously confined than the milch cow, nor do the conditions of confinement of any other animal approximate so closely to those of the insanitary human dwellings in which tuberculosis is so rife. Cow-houses, shippens, or byres, are found, more especially in country districts, in which dirt, darkness, and



vitiated atmosphere are constant. Under conditions such as these tuberculous disease necessarily results.

An infected cow may, under conditions to be described, yield a milk in which the tubercle bacillus is present, and it is not improbable that the presence of a cow in an advanced stage of tuberculosis in a bad shippon, may lead to indirect contamination of milk in pails, &c., by means of dried infected excretions blown about with dust. Such milk, if taken in the raw state by a susceptible person, may infect that person, and it is to the prevention of this particular source or means of infection that much care and attention have been given.

Some valuable information upon the subject was laid before the two Royal Commissions which have been appointed to inquire into the effect on human health of food derived from tuberculous animals; the circumstances determining danger from milk were gone into at considerable length, and the conclusions arrived at are important, and may be held to include the most recent knowledge known upon that branch of the subject.

As regards the infection of cows, the Commissioners had evidence before them to show that the liability to infection varied in different cow-houses. For example it was stated that "three hundred milch cows had to be slaughtered in Edinburgh in 1890 on account of the appearance of epidemic pleuro-pneumonia there, and their carcasses were examined as to the presence or absence of tuberculous matter in them. Of the three hundred, 120, or 40 per cent., were found to be tuberculous, the percentage varying between 12 and 83, according as they came from one or another cow-house."

Difficulties no doubt attend the diagnosis of tuberculosis in cows during life, just as difficulties attend the diagnosis of other forms of disease, either in animals or man, during life. In the case of tuberculosis it is not improbable that the difficulty is partly owing to the fact that veterinary surgeons, as a body, have not in former years given to it the same amount of attention that has been given to certain other forms of disease, and in consequence there is not the same accumulated experience brought to bear upon the diagnosis of this form of disease, but there appears to be but little doubt that the difficulties in this way tend to diminish as experience extends.

The Report of the Royal Commission, April, 1895, (paragraph 60), states :—

“60. According to our experience, then, the condition required for  
 “ensuring to the milk of tuberculous cows the ability to produce  
 “tuberculosis in the consumers of their milk, is *tuberculous disease of*  
 “*the cow affecting the udder*. It should be noted that this affection  
 “of the udder is not peculiar to tuberculosis in an advanced stage, but  
 “may be found also in mild cases.”

Investigations have been continued during the year as to the presence of the tubercle bacillus in milk supplied to the City. Ordinary samples, in readiness for, or in course of delivery were taken for the purpose, and forwarded to the investigators with due care. A total of 295 samples were examined, taken either from cans in dairies and shippens, from railway cans on arrival, on delivery at hospitals, or from unmixed milk. The milk dealt with, fairly represented the City supply. The samples were forwarded in bottles specially prepared, numbers were put upon each, and the bacteriologists, Professors Boyce, Delepine, Hamilton and Woodhead, were not informed of the places from whence the samples came.

Since the value of investigations of this kind depends upon the methods employed, and on the care with which they have been carried out, the examiners explain in detail the processes adopted by them :—

1. The parasite causing the disease, the tubercle bacillus, may be looked for in the milk by means of the microscope.

2. The effect which the milk has on animals may be tested by direct experiment, either by feeding them with the milk in question, or by the injection of small quantities of the milk under the skin, or into the peritoneum (the membrane lining the abdomen). When tubercle bacilli are present in the milk *in sufficient numbers to be a source of danger*, tuberculosis will be produced in the inoculated animal.

Professor Delepine, in his report, explains the reasons why injection under the skin is preferable to injection into the peritoneum.

The lesions which are the result of such inoculation can be clearly recognised from those which might have been produced accidentally in some other way. When proper precautions are taken the injection of material free from tubercle bacillus will not produce lesions which can be mistaken for tuberculosis.

Professor Delepine employed two guinea-pigs for each sample, and although he has every confidence in the subcutaneous method of



inoculation as a test, this has not prevented him from using other methods which might furnish additional information.

His report includes tables showing the re-action, specific gravity, the amount of cream separable in a limited time by means of the centrifugal machine, the amount of sediment, the number of cells, and the total amount of bacteria present. The tables also show the time which elapsed, within a few hours, between the time of milking and the time of examination.

Adverting to the value of the microscopic examination, Professor Delepine observes that even if tubercle bacilli were equally distributed through tuberculous milk (which they are not), a very large number of them would have to be present before one could expect to find one bacillus now and again in the few drops of milk used for a microscopical examination, *e.g.*, to examine one ounce of milk, at least 500 microscopical examinations would be necessary, each one taking twenty minutes to half-an-hour, and if there were say 100 bacilli in that ounce, five such examinations would be necessary before it could be expected that one bacillus could be discovered, yet one bacillus in each drop would represent 10,000 bacilli in a pint of milk.

The simplest method in microscopic examination is to cause the impurities to be separated as a sediment, by means of the centrifugal machine, and then to examine a part of that sediment. From this it will be evident "That whenever tubercle bacilli are discovered by the "microscopic method, they must be in such abundance as to make the "milk infectious in a very high degree."

"I may say at once," he adds, "that out of some 40 specimens of "unmixed milk obtained at various times from tuberculous cows, I have "found the bacilli abundant in microscopic preparations only in two "cases, and in these cases the udder was much diseased."

These observations render apparent the superiority of the inoculation method, concerning which the Professor observes that in order to avoid injecting too large a quantity, and also to ensure that the number of bacilli injected should not be so small that the animal might resist the tuberculous invasion, he has injected half of the sediment separated from about three ounces of milk, mixed with two c.cs. of the milk from which it had been separated, under the skin of one guinea-pig, and the other half of the sediment, mixed with five c.cs. of the same milk, into the



peritoneal cavity of another guinea-pig. The animals were then kept in separate, disinfected cages, in a warm, well-lighted, and well-ventilated animal house.

The results of the inoculations varied. In some cases the animal shewed no ill effect ; in a few the milk proved highly virulent (from causes other than that of tuberculosis), and killed the animal within 48 hours. Others died from accidental causes, unconnected with the inoculations, and the remainder were killed at varying periods up to seven weeks, and a careful *post mortem* examination was made, the organs being examined microscopically.

With regard to the guinea-pigs referred to as showing local re-action at the seat of inoculation, this indicates the presence of a very large number of micro-organisms, and that the milk was not fresh, and it will be readily understood that milk containing irritant organisms of this character would be likely to give rise to the fatal inflammation of the bowels in infants, which is so exceedingly common during the Autumn months.

The investigations carried on by Professor Boyce and the other examiners were conducted with the same careful regard to every detail, and the method employed was much the same as that employed by Professor Delepine. In the early experiments the milk was centrifugalised, and the deposit utilized. In subsequent experiments the sample milk was used. With regard to the microscopic examination, although this was employed, for reasons already stated entire reliance could not be placed upon it.

Due care was taken to ascertain that the animal was perfectly healthy before inoculation, and that it was kept under healthy surroundings in an effectively ventilated animal house ; the animal being isolated as soon as any abnormal symptom developed. Full antiseptic details were employed where requisite.

Professor Boyce calls attention to a possible source of contamination to which reference has already been made, viz., the contamination of the milk from without by the tubercle virus, owing to excretions from tuberculous cows becoming dried within the shippon, floating about as dust and settling on the milk.

He calls attention to the extreme susceptibility of guinea pigs to tuberculosis, and to the difficulty of saying when an animal is suffering

from incipient tuberculosis. In order to prevent as far as possible any fallacy on this point, all the animals used by him were kept under observation for a considerable time previous to their inoculation.

He says, "The chief point to pay attention to is that of never accepting any positive result, unless, firstly, the bacillus be found at the point or points of inoculation, secondly, unless the lymph glands running up from the point of inoculation are enlarged and tubercular, and thirdly, unless the tubercle has shown itself within a reasonable lapse of time."

The results of the bacteriological examination are conclusive that the supervision exercised in the City has proved more effectual than that which obtains in the country, and it is also made clear by the results of this examination, that consumers are safer, so far as tuberculosis is concerned, with milk from City shippens, than with milk sent in from the country.

Nevertheless tubercle must be eliminated absolutely from the milk supply of the City, and the most likely means to effect this end are a rigorous application of the existing Orders and Bye-laws.

The condition of the shippens in country districts indirectly restricts and limits the sanitation of shippens within the cities, since there is a danger that if sanitary requirements are insisted upon beyond a certain point, City shippens will be closed and cows will be kept outside the Municipal boundaries, beyond Municipal control, and under the mischievous conditions which result in so much harm.

Adverting to town shippens, it is desirable that powers should be obtained to prevent the erection of shippens in confined and populous districts, and to enable due regard to be paid to the necessities of adequate yard space exclusively belonging to the shippens.

Powers to remove diseased animals from shippens are too indirect to be thoroughly efficient; the Dairies, Cowsheds and Milkshops Order provides that if at any time \*disease exists amongst the cattle in a dairy or cowshed, the milk of the diseased cow shall not be sold or used for human food. It is also true that when the premises of a cowkeeper are registered for a certain number of cows,

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\* This term only refers to diseases scheduled under the Contagious Diseases (Animals) Act, and does not include Tuberculosis at all.



it is only in contemplation that healthy cows shall be accommodated there for the purposes of the milk trade, and in the event of the cowkeeper electing to keep diseased cows he would be putting himself outside the protection of registration by keeping cows for which he had no license. This circuitous and indirect means of dealing with diseased cows should be rendered more direct.

Until the authorities of rural districts fulfil the obligations imposed upon them in regard to cowsheds, measures should be obtained to prohibit the importation of their diseased products into cities.

There are many persons who entertain the idea that it is in the cowsheds in the towns and cities that the greatest defects exist: this is not the case, many country shippens being kept in a revolting state. Dr. Sergeant, the Medical Officer of Health for the County of Lancashire, says :—

“In a large proportion of rural districts, Bye-laws are not adopted, and no effort is made to render the cowsheds satisfactory.

“Milk is frequently distributed to distant communities possessing no power of control over its production, and without any check against the introduction of disease due to its contamination.”

Table showing number of samples found to be infected with the tubercle bacillus, taken from town and from country shippens :—

TOWN SHIPPENS.			COUNTRY SHIPPENS.			Total.
Total.	Infected.	Per cent.	Total.	Infected.	Per cent.	
228	12	5·2	67	9	13·4	295

It is well to remember that the tubercle bacillus can be readily destroyed, and that there is no more effectual way of doing this than boiling the milk for a few seconds. Objections are raised to this on account of the change in the flavour produced by boiling, and it is also urged that, as milk is a food intended by nature to be taken in the uncooked state, boiling is unnecessary. It must be borne in mind, however, that milk, when supplied in the natural manner to the young infant, passes direct without exposure to the air from the gland to the



stomach of the infant, at a suitable temperature and adequately mixed : it contains neither adulterant nor preservative, nor has anything been abstracted from it, and it is, bacteriologically, clean and pure. The milk of commerce, on the other hand, is exposed to risks of contamination, not only in the open buckets in the shippon, but also in strainers, pails, milk cans and jugs, into which it finds its way in the course of its progress to the table of the consumer ; and even if it is neither skimmed, watered, nor otherwise adulterated, yet after being hawked from door to door through the dusty streets it must necessarily arrive in a varying degree of staleness, more or less contaminated, and loaded with microbes of various kinds.

Between milk supplied as Nature intended it, and milk which has gone through so many vicissitudes, there is a gulf fixed, and a consideration of these facts may modify the prejudices against a few seconds' boiling.

### SUMMARY.

Tuberculosis then is one of the most destructive diseases of the human race, and is mainly dependent upon insanitary surroundings.

The disease is rife amongst domesticated animals, and notably amongst cows, which are more closely and continuously confined than any other animals.

It is with ill-ventilated, dark, dirty, and insanitary shippons that tuberculous disease of the cow is associated. The disease is rare in well-lighted, well-ventilated, clean and sanitary shippons. A diseased animal, apart from the danger liable to arise from the consumption of its milk, may infect other animals by means of its excretions.

The milk of diseased cows is capable of transmitting the tubercle bacillus. It is in tuberculous disease of the cow affecting the udder that danger of contamination of milk arises. The diagnosis of the condition is sometimes attended with difficulty, and the tuberculin test is a valuable adjunct to diagnosis.

The investigations of the bacteriologists show that 5·2 per cent. of the samples of milk taken from City shippons and examined by them contain

the tubercle bacillus. This is a matter of importance and indicates the necessity for a rigorous application of the bye-laws.

Important as this percentage undoubtedly is, it is much below the large proportion of milk infected with tubercle sent in from the country, which is no less than 13·4 per cent. This large percentage may not be a matter of astonishment to those who are familiar with the condition of many country shippens, but it is a fact which demands the attention of those who are responsible for the administration of those shippens.

The tubercle bacillus can be destroyed by boiling for a few seconds, and it is well that this course should be adopted, since milk as Nature intended it differs in important particulars from the milk of commerce.

Additional powers are required to prevent the erection of town shippens without adequate yard space, and without adequate open spaces around them.

More direct powers are required to enable the compulsory removal of diseased animals from shippens. Measures are called for to prevent the importation into cities of the diseased products of insanitary country shippens.

**Administration of City Cowsheds and Dairies.** The number of Shippens in the City during the years 1890 to 1897 inclusive, together with the number of cows licensed to be kept, and the number of applications for new shippens, is as follows:—

		Shippens.		Cows.		Applications.
1890	...	378	...	5,104	...	2
1891	...	380	...	4,950	...	1
1892	...	337	...	4,539	...	6
1893	...	344	...	4,634	...	4
1894	...	304	...	4,005	...	2
1895	...	325	...	4,311	...	20
1896	...	404	...	5,393	...	129
1897	...	453	...	5,650	...	33

**Registration of Premises.** During the past few years special efforts have been made to improve the condition of the premises in which cows are kept.

At the end of 1896 the Medical Officer declined to renew the licenses of any premises which did not comply with sanitary requirements. Consequently as a suitable season must be selected for structural alterations to be carried out, and a reasonable amount of time must be allowed, although the owners and occupiers proceeded with reasonable despatch to do what was necessary, a considerable number of shippons were without licenses until the close of the year.

At the present time no premises are licensed, and no premises will in future be licensed, until their sanitary condition fulfils in every detail the requirements of the Regulations dated January 6th, 1897.

**Inspection of Shippons.** Shippons are under the immediate supervision of two well-qualified and competent inspectors, whose whole time and undivided attention are devoted to the examination of shippons to ensure that the requirements of the bye-laws as to light, ventilation, cleanliness, &c., are carried out. They are also prepared to advise in regard to the construction of new shippons.

In regard to the health of the cows themselves, the shippons are systematically visited by the Leavelookers, five in number, who examine the cows. The visits and examinations of these inspectors, which are authorised by the bye-laws, are not objected to by the cowkeepers, and no instance of obstruction has arisen, nor has any cowkeeper refused to remove from the shippon, cows which the inspector has considered should be removed.

In the event of a cow being found to be in a diseased condition the circumstance is reported to the Medical Officer, and the Veterinary Superintendent or his assistant examines the suspected animal.

Cowkeepers realise that what is being done is in their own interests, they have on the whole, and with very few exceptions, desisted from opposition and evinced willingness to co-operate with the Sanitary Officers to the fullest extent.



A skilled and experienced observer will find a valuable adjunct to diagnosis in the case of tuberculosis in the tuberculin test, and in cases of doubt and difficulty there can be no question as to the advantage of the application of this test. It must, however, be regarded as an accessory, and not as superseding skilled general examination.

There is a wealth of evidence to show that animals taken from insanitary cowsheds are those which suffer most from tuberculosis, while those living in a healthy state are comparatively seldom affected. This has an important bearing upon the question of compensation for animals which have been seized as tuberculous. The remedy lies largely, if not entirely, with the cowkeeper. Let him house his animals properly, and there will be very little disease. So long as compensation is paid him for losses by disease of his own manufacture, he will have no interest in incurring expense to remove the causes of disease.

**Inspection of Dairies.** All places where milk is sold require to be registered, and applications for registration are not granted until the Milkshop Inspector has visited the premises, to ascertain that they are in every way suitable, and that no other business likely to cause contamination of milk is carried on.

In May and November all licensed premises are visited by the District Sanitary Inspectors in order to see that the requisite half-yearly lime-washing has been properly carried out.

**Chemical Analysis of Milk.** About 700 samples of milk are taken annually for analysis under the Food and Drugs Act.

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PROCEEDINGS UNDER THE FOOD AND DRUGS AND MARGARINE ACTS.

All samples of food or drugs are taken either by or under the superintendence of Inspectors of the Health Department. It becomes necessary, however, from time to time to employ women or young lads to go into the shop to ask for the articles, and as soon as the agent receives them, the Inspector enters the shop and completes the formalities which the Act requires. This is rendered necessary, as the Inspectors become known in the district. Special attention is paid to milk, of which a large number of samples are taken. Some samples of "fruit wines" were found to contain salicylic acid in quantities far in excess of what is necessary for preserving purposes. The acid in question is of some medicinal use, but is objectionable and unnecessary in a beverage.

SAMPLES TAKEN FOR ANALYSIS.

No. of Samples purchased.	Description of Samples.	Adulterated.	Informations.
728	New Milk .. .. .	99	78
95	Skimmed Milk . . . .	13	9
6	Condensed Milk .. . .	..	..
36	Butter .. .. .	4	4
10	Lard .. .. .	..	..
4	Margarine .. .. .	4	4
32	Cheese .. .. .	6	1
5	Tea .. .. .	..	..
5	Coffee .. .. .	2	2
11	Sugar .. .. .	..	..
10	Mustard .. .. .	..	..
24	Pepper .. .. .	..	..
4	Cayenne Pepper .. .. .	..	..
4	Ginger .. .. .	..	..
11	Ground Ginger .. .. .	..	..
1	Carraway Seeds .. .. .	..	..
1	Cloves .. .. .	..	..
5	Pickles .. .. .	..	..
4	Piccalilli .. .. .	..	..
5	Vinegar .. .. .	1	1
1	Vermicelli .. .. .	..	..
3	Arrowroot .. .. .	..	..
2	Macaroni .. .. .	..	..
3	Bread .. .. .	..	..
4	Flour .. .. .	..	..
1	Oatmeal .. .. .	..	..
5	Yeast .. .. .	1	1
7	Sweetmeats .. .. .	..	..
6	Ice Cream .. .. .	..	..
2	Marmalade .. .. .	..	..
18	Jam .. .. .	4	..
2	Syrup .. .. .	..	..
1	Treacle .. .. .	..	..
1	Cakes .. .. .	..	..

SAMPLES TAKEN FOR ANALYSIS—CONTINUED.

No. of Samples purchased.	Description of Samples.	Adulterated.	Informations.
1	Pies, Melton Mowbray .. ..	..	..
2	„ Pork .. ..	..	..
4	Sausages .. ..	..	..
1	„ Pork .. ..	..	..
1	Bacon .. ..	..	..
1	Ham .. ..	..	..
1	Seidlitz Powder .. ..	..	..
2	Tartaric Acid.. ..	..	..
5	Cream of Tartar .. ..	..	..
2	Carbonate of Soda .. ..	..	..
3	Olive Oil .. ..	..	..
1	Haricot Verts .. ..	..	..
1	Capers .. ..	..	..
1	Cassia .. ..	..	..
6	Medicine Prescription .. ..	..	..
1	Sugar of Milk .. ..	..	..
1	Tincture of Rhubarb .. ..	..	..
9	Preserved Peas .. ..	1	..
1	„ Peaches .. ..	..	..
2	„ Pine Apple .. ..	..	..
1	„ Tomatoes .. ..	..	..
1	„ Plums .. ..	..	..
1	„ Damsons .. ..	..	..
1	„ Blackberries .. ..	..	..
1	„ Cherries .. ..	..	..
1	„ Apricots .. ..	..	..
2	Rum .. ..	..	..
2	Irish Whiskey .. ..	..	..
1	Scotch Whiskey .. ..	..	..
2	Gin .. ..	..	..
5	Port Wine .. ..	..	..
6	Ginger Wine .. ..	4	1
6	Raspberry Wine .. ..	3	1
1	Cowslip Wine .. ..	..	..
3	Black Currant Wine .. ..	3	..
4	Orange Wine.. ..	3	..
3	Lime Juice .. ..	..	..
5	„ Cordial .. ..	5	2
1	Fruit Juice Lemonade .. ..	..	..
1	Black Currant Juice .. ..	..	..
1	Raspberry Juice .. ..	..	..
1	Cherry Juice .. ..	..	..
1	Orange Juice .. ..	..	..
1	Ginger Punch .. ..	..	..
1	Herbal Ale .. ..	..	..
1	Lemon Squash .. ..	1	..
3	Beer .. ..	..	..
1	Stout .. ..	..	..
Total 1161		154 <i>Adulterated.</i>	104
1176 preceding year.		104 preceding year.	

	1897.	1896.
Number of Informations .. ..	104	94
„ Fined .. ..	79	89
Acquitted or Withdrawn .. ..	25	11
Amount of Fines and Costs .. ..	£222 1 8	£241 2 6



SAMPLES OF MILK OBTAINED DURING THE YEAR 1897.

Number of Samples purchased on Week-days	...	...	...	...	409
„ Informations	...	...	...	...	54
Number of Samples taken at Railway Stations on Week-days	...	...	...	...	200
„ Informations	...	...	...	...	8
Number of Samples purchased on Sundays	...	...	...	...	117
„ Informations	...	...	...	...	23
Number of Samples taken at Railway Stations on Sundays	...	...	...	...	97
„ Informations	...	...	...	...	2

## REFUSING TO SELL SAMPLES FOR ANALYSIS.

								<u>1897.</u>	<u>1896.</u>
No. of Informations	...	...	...	..	...			2	2
„ Fined	...	...	...	...	...			1	2
Acquitted or Withdrawn		...	..	...	...			1	—
								<hr/>	
Amount of Fines and Costs	...	...	...	...	...	£5	4	6	£2 9 0

## GIVING FALSE WARRANTY..

							<u>1897.</u>	<u>1896.</u>
No. of Informations	...	...	...	...	..	—		1
„ Fined	...	...	...	...	...	—		1
Amount of Fine and Costs	...	...	...	...	...	—	£3 17	6

MARGARINE ACT.

					<u>1897.</u>	<u>1896.</u>
Number of Visits to Shops	...	...	...	...	3,816	4,303
„ Samples obtained	...	..	...	...	17	28
„ „ Analysed...	...	...	...	...	—	—
„ Informations	..	...	...	...	21	37
„ Fined	...	...	...	..	17	35
Amount of Fines and Costs...					£30 8 0	£44 18 6

The amount of fines for offences under the Sale of Food and Drugs Act has decreased during the past twelve months as compared with the preceding twelve months. It is still to be recorded that the common fraud of adulterating milk with water is more frequently practised on Sundays than on week-days.

BACTERIOLOGICAL EXAMINATIONS.

It was found that the examinations which had been kindly carried out by Professor Boyce for several years past without remuneration, at the request of the Medical Officer, were becoming more and more frequent, and that greater usefulness was arising from them. This being so, the Medical Officer brought these facts before the notice of the Health Committee, who instructed him to cause various samples, comprising milk and cream, tinned meat and fish, various shell-fish, ice cream, water, etc., to be submitted to bacteriological examination.

The Committee also resolved, with a view to enable action to be taken under the Food and Drugs Act, to make Professor Boyce's appointment permanent in the capacity of Analyst under the terms of that Act.

The following samples were obtained for examination :—

Number of Samples taken of	Milk	...	...	...	...	150
„ „	Cheese	...	...	...	...	1
„ „	Mussels	...	...	...	...	10
„ „	Cockles	...	...	...	...	1
„ „	Ice Cream	...	...	...	...	6

BAKEHOUSES.

Fifty-nine Bakehouses were added to the Register during 1897 ; one-third of these are bread-bakers and confectioners, the remaining two-thirds are small pie and cake shops, which require supervision.

During the year two cellar bakehouses have ceased to be used for baking purposes, and bakehouses erected on the ground floor in lieu thereof.

Number of Bakehouses on Register, 31st December, 1897	...	...	...	...	983
Number of Bakehouses added to Register during 1897	...	...	...	...	59
Number of Bakehouses struck off Register during 1897	...	...	...	...	36
Number of Visits paid to bakehouses...	...	...	...	...	4,220
Number of Bakehouses found dirty (walls and ceilings)	..	...	...	...	489
Number of Notices issued for limewashing	...	...	...	...	279
Number of Bakehouses limewashed without notice	...	...	...	...	210
Number of Notices issued for defective ventilation	...	...	...	...	45
„ „ „ to cleanse store cisterns and provide water from main					4
„ „ „ to repair defective drains and waste pipes	...	...			3
„ „ „ to discontinue using bedrooms opening directly into bakehouse	...	...	...	...	6
„ „ „ to take drains out of bakehouses	...	...	...	*	338
„ „ „ to repair defective floors and walls	...	...	...		8
„ „ „ to repair defective ceilings	...	...	...	..	5
„ „ „ to provide suitable water-closet accommodation				...	9
„ „ „ to remove and cease to keep animals in bakehouse	...				1
„ „ „ to cease to use bakehouse for the purpose of domestic washing	...	...	...	...	3
„ „ „ to cleanse floors, windows, areas, tables and troughs...					66
„ „ „ to cease to use as bakehouses places underground not in conformity with Act, 1895	...	...	...		4
„ „ „ to cease to use as bakehouses unsuitable premises	...				2
„ „ „ to remove accumulations of foul water...	...	...	..		3
Number of References to Government Factory Inspector	...	...	...	...	17

All the above Notices were complied with, except in one case, viz. :—The removal of a drain from within the bakchouse. An information was laid before the occupier of the bakehouse would do the necessary work.

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\* Drains within Bakehouses are prohibited by the Factory and Workshop Act, 1895, one of the requirements of this Act being “no opening to a drain to be within the bakehouse.” All the bakehouses in use, in consequence, have had the drains removed.



SMOKE NUISANCES.

Proceedings for the abatement of Nuisances caused by the emission of excessive smoke from factory chimneys or from steamers, are taken under the Liverpool Sanitary Amendment Act, 1854, sections 24 and 25, and the Liverpool Improvement Act, 1882, section 77. Nuisances arising from domestic chimneys are controlled by the Police.

	1897.	1896.
Number of reports of excessive smoke from Manufactories ...	600	582
,,               ,,               ,,               Steamers in river	275	252
,,               ,,               ,,               ,,               dock	68	56
Total ...	943	890

Admonished by the Health Committee or written to in respect to nuisances caused by the emission of excessive smoke :—

Manufactories ...	5
Steamers ...	2
Total ...	7

		<u>1897.</u>		<u>1896.</u>	
Chief Inspector and Assistants gave Manufacturers	505 Cautions		601 Cautions		
„ „ „ Steamers	... 76	„	76	„	
		<u>581</u>	„	<u>677</u>	„
Total	... ..	261		240	

	1897.	1896.
Informations against Manufactories ...	595	582
,,               ,,               Steamers in river ...	237	252
,,               ,,               ,,               dock ...	68	56
Total ...	900	890
Acquitted or withdrawn, Manufactories ...	9	6
,,               ,,               Steamer cases ...	9	8
Total ...	18	14
Fined, Manufactories ...	586	576
,,               Steamers ...	296	300
Total ...	882	876
Amount of Fines, Manufactories ...	£802 15 3	£689 18 9
,,               ,,               Steamers ...	336 0 0	379 3 5
Total ...	£1,138 15 3	£1,069 2 2

Out of 275 cases of excessive smoke from Steamers in the river which were observed, 25 vessels were bound to foreign ports, the owners of 7 steamers could not be traced, and in 6 cases the Steamers were towing other vessels in emergency, and consequently no proceedings were taken.

	1897.	1896
Complaints received of smoke from defective house flues, and from low chimneys	167	133
Visits relating thereto	708	642
Chimneys raised in consequence of complaints	38	34
Flues altered and repaired	54	27
Attention promised	48	48
Referred to other departments	13	4
Frivolous complaints	14	20
Total complaints dealt with...	167	133

The large and increasing amount paid in fines for smoke nuisances indicates the necessity for care in preventing them.

From careful observations during the course of inspections, it has been found that the nuisance caused by the emission of excessive smoke from chimneys is due to the following causes :—

1. Improper construction of the furnaces, and the want of sufficient boiler room.

2. Inferior quality of the fuel used.

3. Improper firing and want of attention on the part of the stokers.

These causes are usually associated ; even an improperly constructed furnace, if fed with a good quality of fuel and attended to by a careful and skilful man, can be so used as to avoid making unnecessary smoke, and, at the same time, the utmost amount of work of which it is capable can be obtained from it. A furnace of the best construction and fitted with the most approved appliances for preventing smoke, may, on the other hand, give rise to the greatest nuisance owing to improper attention and the use of poor fuel.

A number of manufacturers have had the furnaces in their works fitted with self-feeding or automatic stokers, which may be classified as “cokers” and “sprinklers”; the former are by far the best, the principle being the coking of the coal at the front of the furnace, while the volatile gases have to travel over the full length of the incandescent fuel on the fire bars.

Bad fuel, careless stoking, and attempts to obtain more work from the furnaces of this description than they were originally intended for, cause emission of unnecessary smoke from chimneys attached to furnaces fitted with automatic stokers, which require skilled and careful attention.

The points to be attended to by the stoker are—Frequent and regular firing, the best results being obtained by firing every 3 minutes, making, for 2 cwt. of coal used per hour, charges of 12 lbs. each, and the admission of a sufficient supply of air over the top of the fuel to cause the combustion of the gases given off by the coal, as well as a sufficient supply to the solid portion of the fuel itself.



SHOP HOURS ACT, 1892—5.

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During 1897, under the above Act, there have been 5,048 visits paid to shops during the day, and 2,583 visits made after six o'clock; in 6,735 instances the shops were found to be correct, and 896 incorrect.

The persons concerned have generally evinced readiness to comply with the requirements of the Act, and have thus lessened the difficulties in its administration.

				<u>1897.</u>	<u>1896.</u>
Number of Shops visited (day)	...	...	...	5,048	4,862
„ „ found incorrect	...	...	...	610	669
„ „ visited after 6 p.m.	...	...	...	2,583	2,792
„ „ „ „ found incorrect...				286	376
„ copies of Act distributed by the Inspectors				309	1,076
„ Informations for excessive hours			...	4	4
„ Convictions „ „			...	4	4
being 1 Fishmonger (2 informations)					
1 Hairdresser, and 1 Grocer.					
„ Informations for not exhibiting Notice of Act					
and Requirements as to hours of work				18	8
being 4 Drapers, 3 Grocers, 3 Greengrocers,					
2 Bakers, 1 Chemist, 1 Earthenware					
Dealer, 1 Wine and Spirit Merchant,					
1 Confectioner, 1 Butcher, and 1 Boot					
Dealer.					
„ Convictions	...	...	...	17	7
Total number of Informations	...	...	...	22	12
„ „ Convictions	...	...	...	21	11
Total Amount of Fines and Costs	..			<u>£19 6s. 6d.</u>	<u>£10 11s. 6d.</u>

FACTORY AND WORKSHOPS ACT, 1878—95.

The Inspectors appointed under the above Acts have visited a large number of Workshops, the summary of which is appended. A certain number of Sanitary defects were found, the character of which is indicated in the following table :—

	1897.		1896.
Number of Workrooms, dirty walls .. .. .	746	.. ..	569
„ „ „ ceilings . . . . .	658	.. ..	570
„ „ „ floors .. .. .	14	.. ..	27
„ „ „ urinals .. .. .	3	.. ..	33
„ „ „ water-closets .. .. .	42	.. ..	82
„ „ „ lavatories .. .. .	2	.. ..	27
„ „ insufficiently ventilated, arising from structural defects or from want of attention .. .. .	147	.. ..	430
„ „ found overcrowded .. .. .	17	.. ..	11
„ Defective Drains and Water-closets; also insufficient water-closet accommodation, and other nuisances .. .. .	494	.. ..	755
„ Notices issued { upon Owners .. .. .	174	.. ..	140
„ „ { upon Occupiers .. .. .	528	.. ..	527
„ „ not complied with .. .. . (These are known to be in progress.)	4	.. ..	2
„ Informations .. .. .	13	.. ..	21
„ Fined .. .. .	9	.. ..	10
„ of References to Government Factory Inspector ..	74	.. ..	126
„ Workshops inspected, protected .. ..	259	.. ..	598
„ „ „ non-protected .. ..	36	295	26 624
„ Workrooms measured .. .. .	249	.. ..	694
„ Workrooms closed owing to insanitary conditions .. .. .	5	.. ..	..
being (1 Tailor, 1 Bootmaker, 1 Drysalter, 1 Laundry and 1 Mineral Water Manufacturer.)			
Visits to Workshops .. .. .	5,902	.. ..	5,443
Workshops found incorrect .. .. .	2,029	.. ..	2,318
Amount of Fines and Costs ..	£13 1 0		£6 15 0

SUMMARY OF VISITS PAID TO WORKSHOPS.

Basket Makers	...	...	...	7	Lead Light Makers	...	...	...	13
Blind Makers	...	...	...	11	Lithographers	...	...	...	11
Block Makers	...	...	...	5	Marble Masons	...	...	...	5
Boat Builders	...	...	...	6	Marine Stores	..	...	...	113
Boot Makers	...	...	...	106	Mattress and Bed Makers	...	...	...	48
Bottlers	...	...	...	64	Metal Polish Makers	...	...	...	5
Box Makers	...	...	...	10	Metallic Valve Makers	...	...	...	5
Brick Tool Makers	..	..	...	12	Milliners	...	...	...	130
Brush Makers	...	...	...	22	Mineral Water Manufacturers	...	...	...	18
Cabinet Makers and Joiners	...	...	...	341	Organ Builders	...	...	...	8
Canned Meats	...	...	...	46	Paint and Varnish Manufacturers	...	...	...	33
Cap Makers	...	...	...	14	Paper Cutters, &c.	...	...	...	20
Carvers and Gilders	..	...	...	79	Pickle and Sauce Manufacturers	...	...	...	83
Cattle Food Mixers	...	...	...	16	Pipe Makers and Mounters	...	...	...	8
Chain Makers	...	...	...	7	Plasterers and Modellers	..	...	...	5
Chair Makers	...	...	..	10	Plumbers	...	...	...	44
Chemists' Sundries	...	...	...	16	Printers' Roller Makers	...	...	...	8
Coach Builders	...	...	...	54	Relief Stampers	...	...	...	6
Confectioners	...	...	...	129	Sack and Bag Makers	...	...	...	75
Coopers	...	...	...	53	Saddlers	...	...	...	34
Cork Cutters	...	...	...	7	Sailmakers	...	...	...	11
Corset Makers	...	...	...	9	Sign Writers	...	...	...	8
Cotton Sorters	...	...	...	54	Slipper Makers	...	...	...	12
Cycle and Bassinette Makers	...	...	...	44	Smiths	...	...	...	130
Dress and Mantle Makers	...	...	...	928	Tailors	...	...	...	1,625
Drysalts	...	...	...	23	Tarpanlin Makers	...	...	...	17
Engravers	...	..	...	30	Toy Makers	...	...	...	5
Enamellers	...	...	...	17	Trunk and Portmanteau Makers	...	...	...	13
Firewood Manufacturers, &c.	...	...	...	29	Umbrella Makers	...	...	...	15
Fish Curers	...	...	...	6	Underclothing Makers	...	...	...	185
French Polishers	...	...	...	24	Upholsterers	...	...	...	66
Fringe Makers	...	...	...	5	Ventilating Engineers	...	...	...	6
Furriers	...	...	...	27	Watchmakers and Jewellers	...	...	...	39
Galvanisers	...	...	...	26	Wheelwrights	...	...	...	37
Ink Manufacturers	...	...	...	21	Wig Makers	..	...	...	14
Knitters	...	...	...	9	Various	...	...	...	259
Lath Cleavers	...	...	...	8					
Ladder Makers	...	...	...	7					
Laundries	...	...	...	506	Total	...	...	...	5,902



FEMALE SANITARY STAFF.

The work of the Female Sanitary Inspectors for the past year has been almost restricted to the poorest and lowest classes in the City.

The Inspectors have not failed to direct their efforts against drunkenness, sloth and improvidence, whilst pointing out what is necessary to ensure a healthy condition of the home. To ensure continuity of work, a district was allotted to each Inspector. Their method consists of house-to-house visitation, each family being seen in their own room or house, the requirements of the Health Committee as to cleanliness, &c., explained to them, and the advantages resulting from their observance pointed out. Specially dirty families are re-visited at frequent intervals, and the street is systematically re-visited every three or four months if circumstances allow this to be done.

In the lowest streets the work is very much impeded by the frequent removal of the people from house to house; this is especially the case with the dirtiest and most drunken families. It is no uncommon thing in these streets to find that in about three months half the people have gone from one house to another.

Very little time is occupied in re-visiting the clean families, but much time is devoted to those who neglect their houses and children, and attention is given to those who are suspected of having cleaned up only in anticipation of the Inspector's visit. In many cases much improvement has ensued.

In addition to this routine work, cases of gross dirt and neglect of children were reported to the Liverpool Society for the Prevention of Cruelty to Children.

When sickness is found, the friends of the sick person have been influenced to seek medical treatment or admission into hospital. Structural and sanitary defects, and cases of overcrowding, are brought under the notice of the departments which deal with them.

It is obvious that, on the whole, and in spite of discouragements inseparable from the work, the tone of many of the inhabitants of the streets visited has been improved, and there is evidence of increased cleanliness, which promises to become permanent.

It will be observed that the Female Inspectors are armed with no other powers than those of personal influence ; the nett result of their work is very satisfactory, and fully justifies the selection for it of educated and intelligent persons.

STATISTICS OF WORK OF FEMALE SANITARY STAFF.

								<u>1897.</u>
Number of Street Houses examined	...	...	...	...				7,744
„ Court	„	„	...	...	...	...		3,547
„ Cellars	...	...	...	...	...	...		1,472
„ Families found dirty	...	...	...	...	..			1,792
„ Re-visits to Families	...	..	...	...				6,131
„ Houses found dirty	...	...	...	...				2,470
„ Cellars	„	„	...	...	...	...		241
„ Notices issued to cleanse dirty premises	...	...						256
„ References to Sanitary Inspectors	...	...	...					2,703
„ „ „ Lodging-house Inspectors	...	...						20
„ „ „ Veterinary Department	...	...						50
„ „ „ City Engineer	...	...	...					1
„ „ „ Water Engineer	...	...	...					333
„ „ „ School Board	...	...	...					20
„ „ „ The Shelter, Islington	...	...						34

COMMON LODGING-HOUSES.

The Common Lodging-Houses Act provides that any person opening any premises as a Common Lodging-House, or receiving lodgers therein, without making application to the Medical Officer of Health to have such premises registered, is liable to a penalty of 40s. for every such offence.

When premises have been approved and registered in accordance with the requirements of the Common Lodging-Houses Act, the following Rules and Instructions, together with suitable and permanent cards indicating the various requirements, are handed to the Keeper, to place in a prominent position in each room.

In addition to the requirements mentioned in the instructions, the cleanliness and suitability of the beds and bedding engage the attention of the Inspector.

RULES AND INSTRUCTIONS.

1.—No greater number than                      Lodgers are to be received or accommodated in this house at any one time.

2.—The windows of every sleeping-room in this house are to be opened, and kept open to their full width, from nine to ten o'clock every morning, and from two to three o'clock every afternoon (weather permitting), unless in case of sickness in any room requiring the windows to be closed.

3.—The floors of every room in this house shall be well swept every morning before the hour of ten, and shall be well washed during the morning of every Friday.

4.—This house shall be thoroughly cleansed, and the walls and ceiling of every room in this house shall be well and sufficiently limewashed, and the blankets, rugs, and bed-clothes, and covers used in this house, shall be thoroughly cleansed and scoured in the first week of each of the months of April, August, and December.

5.—Upon any person in this house, whether a Lodger or one of the family, being affected with fever or any contagious or infectious disorder, the Keeper shall forthwith give notice thereof to the Medical Officer of Health, at his Office, Municipal Offices, Dale Street, and the Medical Officer will visit the house, and take such proceedings as he shall think proper in compliance with the Act.

6.—If any person in this house shall be affected with fever or any infectious or contagious disorder, the blankets and bed-clothes used by such person shall be thoroughly cleansed and scoured, and the bedding fumigated, immediately after the removal of such person, and where the bedding used consists of shavings or straw, the same shall be burned immediately after such removal.



7.—The Keeper of this house shall provide sufficient accommodation for washing, together with a sufficient supply of water for the use of the Lodgers herein.

8.—The Keeper of this house shall reduce the number of Lodgers, or shall cease to receive and accommodate Lodgers altogether, immediately upon receiving notice to that effect from the Medical Officer of Health.

9.—This ticket shall be placed and kept in such situation in this house as the Medical Officer of Health shall from time to time direct, and shall be produced and delivered to such Officer on demand.

N.B.—The Keeper of any Lodging-house defacing or removing this ticket or disobeying the above Rules and Instructions, will be liable to the several penalties in that behalf provided by the Bye-laws for regulating Lodging-houses, a copy whereof may be obtained on application at the Office of the Town Clerk, at the Municipal Offices, Dale Street.

By order of the Health Committee.

At the end of 1896 there were on the register a total of 635 lodging-houses, and at the end of 1897 the total number was 607, which furnished accommodation for 13,735 lodgers, besides 1,811 members of the keepers' families.

The difference in the number of lodging-houses was occasioned by the removal of 200 old licenses and the addition of 172 new ones.

Four applications were refused by the Health Committee, on the ground that the applicants had formerly kept registered houses, but had not conducted them properly.

The diminution in the number of common lodging-houses is due partly to the falling-off in the emigration trade during the last few years, and partly to the fact that larger houses, commonly referred to as "model lodging-houses," with somewhat better accommodation, are being opened, and the business of the smaller ones extinguished.

In some of the better-class houses for men, separate cubicles are provided for each lodger, the price paid for them varying from 6d. to 1s. 6d. per night. These cubicles are much more appreciated than the ordinary accommodation provided.

The number of the so-called "model lodging-houses" for men only upon the register is 132, and these are registered to accommodate 5,837 lodgers, as well as 205 members of the keepers' families.

There are also 22 registered model lodging-houses for the accommodation of women only. These have room for 600 lodgers, in addition to 29 members of the keepers' families.

The visits to lodging-houses are both by day and by night. The night visits are almost restricted to the lower districts and commoner class of house. The lodging and emigration houses of the better class, especially those provided only with single beds for each person, and with no more beds than are equivalent to the number of lodgers allowed, are only occasionally visited at night, unless special circumstances necessitate a closer supervision.

Houses which are not licensed either as lodging or sub-let houses are frequently visited by day when such a course is deemed expedient, in order to ascertain whether any grounds exist for putting these houses on the register.

There were 924 visits paid during the year to such houses, and in ten of the cases, where suspicion was confirmed, night visits were also paid, and the tenants summoned and fined.

Persons harbouring lodgers in unlicensed premises receive a notice to apply to have the rooms measured and licensed. There were 115 such notices issued during the year, but in only 10 cases was it necessary to institute prosecutions.

The number of day visits paid during the year was 27,565, and the night visits, 1,174.

One Hundred and Forty-three informations were laid against keepers of common lodging-houses during the year for the following offences :—

Not sweeping floors	...	...	...	...	58
Not washing floors	...	...	...	...	23
Overcrowding	...	...	...	...	32
Receiving lodgers in unlicensed rooms				...	2
Not applying to register		..	...	...	10
Mixing sexes	...	...	...	...	9
Not limewashing	...	...	...	...	5
Not applying for Tickets		...	...	...	4
Total					143

Convictions followed in 141 cases, the total amount of fines amounting to £43 6s. 0d., and ranging from 1s. and 1s. costs to 40s. and costs.

Two cases were withdrawn.

The number of lodging-houses found dirty was 127 : notices were served to limewash and cleanse.



The Bye-law requires that every case of infectious sickness in a lodging-house should be at once reported to the Medical Officer of Health. Twenty cases of Fever occurred in lodging-houses; 19 of the patients were at once sent to hospital, the remaining patient died before he could be removed, and the body was removed to the mortuary. 1 case of Diphtheria also occurred in a lodging-house, and being a child of the keeper's family, was not removed. In all cases of Fever or Infectious Disease, the bedding was removed to the disinfecting apparatus and the rooms purified and cleansed. There were 59 deaths from non-contagious diseases in lodging-houses, of which 31 belonged to the keepers' families, and 28 were lodgers.

#### SEAMEN'S LICENSED LODGING-HOUSES.

The Corporation have made bye-laws, with the sanction of the President of the Board of Trade, for the licensing of Seamen's Lodging Houses, under the Merchant Shipping (Fishing Boats) Act, 1883, section 48, which enacts that "The Sanitary Authority within whose district any seaport town is situate may, with the sanction of the President of the Board of Trade, from time to time, make, revoke, alter, and amend bye-laws and regulations relating to Seamen's Lodging Houses in such town, which shall be binding upon all persons and bodies keeping houses in which seamen are lodged, and the owners thereof, and persons employed therein. Such bye-laws and regulations shall, amongst other things, provide for the licensing of Seamen's Lodging Houses, the inspection of the same, the sanitary condition of the same, the publication of the fact of a house being licensed, the due execution of the bye-laws and regulations, and the non-obstruction of persons engaged in securing such execution, the preventing of persons not duly licensed holding themselves out as keeping or purporting to keep licensed houses, and the exclusion from licensed houses of persons of improper character, and sufficient penalties for the breach of such bye-laws and regulations not exceeding in any case the sum of fifty pounds. All offences under such bye-laws and regulations shall be deemed to be offences within the Merchant Shipping Acts, 1854 to 1883, and be punishable accordingly."—And on the written application of the keeper of any, registered common lodging-house or registered lodging-house, made in such form and stating such particulars as the Council require, the Council will if they see fit, grant to such keeper a license authorizing him to designate his registered house a Seamen's Licensed Lodging House.



Applications from the keepers of Registered Common Lodging-houses for licenses authorizing the designation of such Registered Common Lodging-houses as Seamen's Licensed Lodging-houses, have been very few, only twelve such Licensed Lodging-houses now being on the register, with accommodation for 211 seamen.

The bye-laws must necessarily exercise a beneficial effect upon those houses which are licensed as Seamen's Licensed Lodging-houses, but the great bulk of common lodging-houses to which seamen commonly resort are not regulated under these bye-laws, but are dealt with by regulations under the Common Lodging-houses Act of 1851.

The number of licenses granted since the adoption of the Seamen's Licensed Lodging-house Bye-laws is 24. Twelve have been given up, none withdrawn, which leaves 12 at present on the register.

It has not been found necessary to institute proceedings under the bye-laws in question.

Some years ago the holders of licenses to keep Seamen's Lodging-houses were authorized by the Board of Trade to board vessels and seek for lodgers, and while this privilege was granted there was an advantage in holding such a license, but that privilege being now withdrawn, it does not appear that there is any advantage to the keeper of a common lodging-house to have his premises registered as a Seamen's Lodging-house, and hence probably the small number upon the register.

#### SUB-LET HOUSES.

These are houses, one or more rooms of which are let off to members of one or more other families. The Bye-laws provide for their registration and inspection to prevent overcrowding and ensure attention to cleanliness and sanitary requirements.

The number registered during 1897 was 629, making the total on the Register on the 31st December, 17,364. The reason there were fewer houses on the Register in 1897, compared with 1896, is that many of the houses had ceased to be sub-let and were removed from the Register; a number of others were demolished by the Insanitary Property Committee, being unfit for human habitation. The number of visits paid during the night was 14,516, and during the day 67,764, with the result of finding 1,211 rooms overcrowded. In addition to overcrowding, the cases of permitting males and females not married to occupy the same room comes under

the notice of, and are entered in the books of the Inspectors. There were 698 rooms thus indecently occupied. The character of the indecent occupation may be judged of from the following facts:—In 378 instances one man and two women were found in the same bedroom; in 269 instances two men and one woman; in 32 instances two men and two women; in 34 instances one man and three women; in 21 instances three men and one woman; in 2 instances three men and two women; in 7 instances two men and three women; in 1 instance one man and four women; in 1 instance three men and three women; in 1 instance four men and three women; and in 2 instances four men and one woman. These cases are most common amongst the poorest and most ignorant inhabitants of the most squalid districts. They appear to be the outcome of ignorance and indifference, and not of immoral intent.

Informations were laid against 1,503 chief tenants for breaches of the bye-laws, viz. :—

Overcrowding .. .. .	856
Floors not washed .. .. .	232
Floors not swept .. .. .	410
Refusing admission.. .. .	5
<hr/>	
Total .. .. .	1,503

The fines levied in each case were as follows:—1 fined 1s.; 1,330 fined 1s. and 1s. costs; 102 fined 1s. 6d. and 1s. 6d. costs; 1 fined 2s.; 37 fined 2s. and 2s. costs; 11 fined 2s. 6d. and 2s. 6d. costs; 5 fined 5s. and 4s. 6d. costs; 2 fined 10s. and 4s. 6d. costs; 2 fined 20s. and 4s. 6d. costs; and 3 fined 40s. and 4s. 6d. costs; making a total of fines levied during the year of £171 11s. 0d. 9 informations were withdrawn, the tenants having complied with the bye-laws.

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CANAL BOATS.

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The Leeds and Liverpool Canal Company are the proprietors of the only Canal having direct communication with Liverpool, and the length of the waterway within the City, exclusive of the Locks which lead to the Docks, is about three miles.

The number of Inspections of Canal Boats during the year was 4,509, and the condition of the boats and their occupants as regards matters dealt with in the Acts and Regulations is indicated by the following information :—

Forty-three boats, not registered by their present owners, were found to be used as dwellings. In 10 of these cases written notices were sent to the owners, and in 33, verbal notices were given to masters.

In 39 cases the boats were registered in compliance with the notices, in 3, the registration was not completed on December 31st, and 1 has not been seen in the district since.

Twenty-two boats were found without certificates on board. Notices were sent to the owners in each case, and 16 were found abated, and 6 have not been seen in the district since.

Twenty-two boats were found without the registered number painted on both sides of the boat. Notices were sent to the owners in each case, and the omission rectified in 20 cases. Two have not been seen in the district since.

In 16 cases defective second bulkheads were reported. Notices were sent in each case, and the defects were remedied.

In 41 boats the cabins required painting. Notices were sent to the owners in each case. Thirty-one of them were attended to, and 9 of the boats have not yet been seen again by the Inspector. One of the notices has not yet expired.

Dirty cabins were reported in 3 cases. In one case verbal notice was given to the master, and in the two others, written notices were sent to the owners. In 2 cases the notices were complied with, and 1 not being complied with, an information was laid against the master, and a small fine inflicted.

Besides the foregoing there were 136 instances of infringements of the Acts and Regulations, caused by—leaky decks (79), general leaky



condition of boats (26), no doors to lockers (2), broken scuttle covers (1), defective ventilation (6), broken floors (7), and no water casks on board (15). In 134 cases notices were sent to the owners, and in 2 cases verbal notice was given to the master. One hundred and eighteen of the notices were complied with, and 18 have not been re-inspected.

Informations were laid in 9 cases, viz.:—non-separation of sexes, 6, boats not properly marked and lettered, 2, and dirty cabin, 1.

In all of these cases fines were inflicted, varying from 1s. and 1s. costs, to 20s. and 4s. 6d costs, and amounting to a total of £4 13s. 6d.

Only one case of infectious sickness, viz., Erysipelas, occurred on boats during the year. The case was removed to hospital, and the cabin disinfected and cleansed.

The entire number of infringements of the Acts and Regulations referred to in the Report occurred on 189 boats, in several instances the offence being repeated on the same boat.

Twenty-nine notices were sent to the School Board of children living on canal boats and not attending any school.

The number of boats on the register is 652. Eleven boats have been removed from the register, as it was ascertained that 4 of them had been broken up, that 5 had been sold, and were no longer used as dwellings, and two were removed from the register at the request of the owners, being disused. It is probable that other boats have been broken up or have left the district, but in the absence of definite evidence of this, the boats remain on the register.

During the year 32 new boats were registered, 16 re-registered on account of changes of owners, and 2 re-registered on account of structural alterations. All boats re-registered in consequence of a change of owners, or the name of the boat being changed, or on account of structural alterations, retain their original numbers.

Copies of the registration certificate were issued to the owners of 14 boats, owing to the original ones being worn out.

There were 48 changes of masters reported, and the fact duly recorded on the register.

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THE AMBULANCE AND DISINFECTING STAFF.

The following table shews the number of patients removed by Officers of the Ambulance Staff, and the Hospitals to which they were taken :—

Netherfield Road.	Grafton Street.	Park Hill.	Brownlow Hill.	Mill Lane.	Priory Road.	Northern Hospital.	Royal Infirmary.	Smithdown Road.
833	769	438	81	215	204	1	1	17

All cases of Smallpox and all cases of Typhus Fever, with very rare exceptions, are removed to Hospital, and a special Inspector is appointed to keep the house from which the patient has been removed under supervision, to ascertain whether any further sickness has developed. These inquiries are made at intervals of a day or two for one month, and any case of sickness, however trifling it may appear to be, is at once reported and visited by a medical man. By these inquiries many cases of infectious sickness are discovered and removed to the hospital at the earliest possible stage of the disease, and often before any serious risk of infection has arisen. Without these inquiries, which have occasioned no inconvenience to anyone, the patients would have remained at home for a longer or shorter period, constituting centres of infection to the neighbourhood. The absence of friction indicates the care exercised by the Inspectors in carrying this system into execution.

The collection, removal, disinfection and return of infected bedding has been carried on as hitherto by the Ambulance Staff.

It has been found that in many instances in which compensation for clothing had been given in money to the poorer classes of people, that the money was spent in drink, and the people left without clothing. As a consequence of this, an arrangement was made with a firm of repute, to supply articles equivalent in value to those which had been destroyed, thus preventing an improper use of the money. There were difficulties incidental to this method, and the present plan is to keep at the dépôt a stock of mattresses, bedding, &c., and to give it out to suitable applicants.



Instances of gross carelessness have occurred during the year, and on March 24th, F. Burns was summoned for exposing an infected person in Cleopas Street. The case was withdrawn on payment of 21s. costs.

On June 9th, Mary Ann Sheehan was fined 10s. and costs for exposing an infected person in Currie Street.

On November 10th, Daniel Bernstein was fined £5 and costs for transmitting infected clothing from his tailor's workshop, 46, Fairclough Lane, to a large clothing establishment in Renshaw Street.

#### DISINFECTION OF HOUSES.

In all cases of infectious disease the houses were disinfected by a trained staff, free of cost, with sulphurous gas ; but whenever there was sickness in any room of the house, disinfectants were given to the tenants for use in the sick room until the sulphurous gas could be used safely. No house is considered properly disinfected until sulphurous gas has been used. The existence of infectious sickness necessitates many visits by the persons in charge of disinfection. There were in all 7,708 visits paid during the year to houses for the purpose of disinfection, the number of houses properly disinfected being 4,052.

For the removal of patients to hospital, and for the removal of infected bedding, and its return after disinfection, an adequate ambulance staff is maintained.

Four ambulance carriages are in use for the different forms of infectious disease. Bedding and clothing after disinfection are taken home by a staff and conveyance entirely distinct from that which removed them in the infected state.

#### INFECTED HOUSES.

	1897.
Number of Infected Street Houses Inspected ... ..	3,391
.. .. Court .. ..	246
.. .. Cellars .. ..	75
.. .. Houses and Cellars Re-inspected ... ..	3,721
.. Notices to Owners to Cleanse ... ..	3,909
.. .. Occupiers .. ..	159
.. Informations ... ..	36
.. Fined ... ..	11
.. Acquitted and Withdrawn ... ..	25
Amount of Fines and Costs ... ..	£15 6s. 0d.

There is a decrease of about 800 compared with the preceding year in the number of houses requiring to be dealt with on account of infection.



NOTICES TO MASTERS OF SCHOOLS AND LIBRARIANS.

In accordance with the arrangements made with the School Board, 5,430 postcards were sent to the Head Masters of the various schools informing them that children from infected houses attended their schools, Similar information was sent to the School Board.

Books borrowed from Lending Libraries which have been found in infected houses have been taken to the Disinfecting Station and either destroyed or disinfected and returned. In the case of books which have been destroyed, compensation has been paid under the Public Health Act.

THE DISINFECTING APPARATUS.

The number of articles disinfected at the various Apparatus during the year amounted to 45,856.

DATE. 1897.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	Number of Pieces of Wearing Apparel, &c.	Total Number of Articles.
January .. .	400	365	2,813	1,045	4,623
February .. ..	308	233	2,162	1,495	4,198
March .. ..	322	262	2,282	1,245	4,111
April .. ..	241	154	1,640	684	2,719
May .. ..	266	187	1,782	948	3,183
June .. ..	193	126	1,033	295	1,647
July .. ..	278	183	1,732	2,090	4,283
August .. ..	260	207	1,611	583	2,661
September .. ..	370	264	2,134	366	3,134
October .. ..	639	429	3,766	1,074	5,908
November .. ..	448	312	2,751	1,432	4,943
December .. ..	454	251	2,675	1,066	4,446
Totals .. ..	4,179	2,973	25,381	12,323	45,856

The number of articles destroyed at the various Apparatus during the year amounted to 1,389, compensation being paid in conformity with the provisions of the Public Health Act.

DATE. 1897.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	Number of Pieces of Wearing Apparel, &c.	Total Number of Articles.
January .. .	21	44	20	..	85
February .. ..	10	27	23	6	66
March .. ..	16	41	15	21	93
April .. ..	12	21	26	25	84
May . . .	8	42	13	52	115
June .. ..	12	12	8	..	32
July .. ..	14	28	27	38	107
August .. ..	24	54	48	54	180
September .. ..	10	43	10	3	66
October .. .	37	84	78	44	243
November .. ..	13	64	47	61	185
December .. ..	19	47	33	34	133
Totals .. ..	196	507	348	338	1,389

PRINCE'S DOCK MORTUARY.

The Mortuary at the Prince's Dock is for the reception of the bodies of persons who have been drowned, killed, &c., and over which the Coroner has to hold inquests. Bodies are taken there by the police, and when it may be necessary to make post-mortem examinations, any medical gentleman may have the assistance of an inspector on sending a communication to 54, Gascoyne Street.

BODIES REMOVED TO THE PRINCE'S DOCK MORTUARY.	
Number from River.	Number from City.
1	179

REMOVALS TO MORTUARIES ON MEDICAL CERTIFICATES OR ON  
MAGISTRATES' ORDERS.

Bodies Removed to Mortuaries.											
Green Lane.	Lark Lane.	Waver-tree.	Smithdown Road.	St. Martin's.	Mill Road	Anfield.	Belmont Road.	Park Hill.	Netherfield Road.	Walton Village.	
6	..	1	..	164	..	..	..	..	..	..	

The Caretaker of St. Martin's Mortuary is temporarily provided with a residence in Gaſcoyne Street, and plans for the re-construction of the Mortuary have been prepared and approved.

CREMATORIUM.

A Crematorium has been erected in Anfield Cemetery, and the ancient means of disposal of the dead by cremation, which is again finding favour in many important centres of population throughout Europe, may be resorted to here. The building is of attractive appearance, and the surroundings appropriate.

CITY BURIAL GROUNDS AND GRAVEYARDS.

The attention of the Health Committee was given during the year to the neglected and discreditable condition of many of the City burial grounds and graveyards, alluded to in the last Annual Report. A Sub-Committee was appointed to carry into effect the recommendation that steps should be taken to prevent further interments in burial grounds within the City.



Negotiations were opened with the governing bodies of the several burial grounds concerned, and these negotiations have resulted in terms being arranged with the proprietors of two of the burial grounds, viz., the Necropolis and St. Mary's, Kirkdale, for the acquisition of their interest.

The governing bodies of the other burial grounds have also for the most part acquiesced in the proposal to close their burial grounds, subject to suitable terms being arranged.

Accordingly, clauses have been inserted in the Bill which the Corporation are promoting this Session in Parliament, to enable the Corporation to acquire the several burial grounds referred to, and, if thought desirable, to convert the same into ornamental open spaces.

The inspections made in regard to interments in City grave-yards during the last two years are as follows:—

		<u>1897.</u>	<u>1896.</u>
Number of graves examined and measured	...	47	52
„ visits to cemeteries	... ..	10	9

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# CLEANSING AND SCAVENGING.

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CLEANSING AND SCAVENGING.

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Throughout the whole of the year, but more frequently during the Summer months, courts and alleys with covered entrances were washed by means of hose pipes, with markedly beneficial results. The surface of certain streets in the lower districts of the City, as well as certain streets in which the traffic is heavy, were also washed from time to time during the hot and dry weather, with very great benefit.

In the Annual Report relating to the year 1896, the Medical Officer called attention to the advantages to be looked for from a less restricted use of water, more especially in washing the streets. To a limited extent the practice of street washing was extended, but one of the difficulties experienced appears to have been to induce the scavengers to apply the water in such manner so as to wash the paved surface without actually damaging it.

So long ago as 1895 the Medical Officer called the attention of the Superintendent of Scavenging to the damage which would ensue if the water were applied with full force, and on September 3rd, 1895, he wrote, *inter alia*, "should it be found that the force of water washes out the gravel and pitch grouting, some means must be found to lessen the strength of the stream." Notwithstanding this, however, it was quite obvious in 1896 that great mischief was being done, and the Medical Officer again found it necessary to call attention to the circumstance, since it is evident that if the water is applied with such inconsiderate violence as to actually damage the streets, this invaluable sanitary measure would fall into disrepute; it is abundantly plain, however, that there is no reason why those employed in street washing should not exercise ordinary intelligence in applying the water, and hold the hose in such a manner to the street surface that the erosive powers shall be properly modified.

Last year, more especially during the summer months, many of the streets were in an excessively dirty state, putrefying refuse, rubbish and



filth, horse droppings, etc., being scattered in all directions, the net result being a filth-laden atmosphere and the mischief which follows from such a condition. On Sundays, more especially, the condition even of some main thoroughfares was not what it should have been. The subject has engaged the close attention of the Health Committee, with the view to the adoption of improved methods.

With regard to the general question of water supply, there is no doubt at all that a more abundant supply of water for cleansing and general sanitary purposes is called for. No one can be unfamiliar with the stinted and niggardly supply which is eked out in many public and private conveniences, and although the smell from the decomposing filth is oftentimes disguised by the use of smelling substances, such as carbolic acid, camphor, etc., the practice is dirty and ineffective, and the proper remedy is to be found in cleanliness only. No one can fail to have noticed the foul smells arising in warm weather from tramway and omnibus stations, cab ranks, etc., due to the want of a freer use of water.

The domestic use of water for baths, washing, and for general domestic sanitary purposes should be unstinted, and domestic closets should be frequently flushed.

The actual supply of water to the City for all purposes may be estimated at 28 gallons per head per day, but as there is reason to suppose (see pages 3 to 8) that the population is under-estimated, the actual allowance per head per day is consequently below this.

Twenty-eight gallons per head per day may be thought a liberal allowance, but a consideration of the many claims upon that amount for business and kindred purposes, for extinguishing fires, washing streets, and for other requirements incidental to city life, will show but a narrow margin for individual use. The greater part of Liverpool is very densely populated, many of the streets are, in proportion to the volume of traffic passing through them, relatively narrow, and soon made dirty. As a consequence, the tendency to the accumulation of dirt is certainly not less than it is in

other cities where the business and the life are extended over a much wider area. It is not, therefore, to be expected that a smaller water-supply will suffice for Liverpool than for other cities, nor can the interests of health be advanced by a quantity below that which other cities find requisite.

It is of interest to note what some of these quantities are:—

Glasgow receives 50 gallons per head per day, of which 32 are estimated to be for domestic purposes.

Edinburgh „ 35 gallons per head per day.

Aberdeen „ 48 „ „

Leeds „ 33 „ „

Dublin „ 32·6 „ „

London „ 35 „ „

Manchester, and some other inland towns, have a less supply in consequence of the dry-closet systems adopted. Abroad, and in America, the supply is very much more liberal. In Paris, where, as is well known, a liberal use is made of water, 47 gallons per head per day are allowed. In New York and other prominent American and Canadian cities the supply is very much more liberal even than that. It may perhaps be true that in American cities which have a supply of over 100 gallons per head per day, a considerable amount is wasted. Waste of any kind is to be deplored, but no question of waste arises so long as it can be proved that the increased use results in preserving health and removing dirt and discomfort.

Water, as a fundamental sanitary necessity, ranks almost with sunlight and fresh air, and if the construction of some parts of the City prevents the access of these, there is greater need that there should be unrestricted use of water.

During the dry heat of last summer the prevalence of fatal diarrhoea cannot be altogether disassociated from dirty and unwashed streets.

Mr. Richard S. Reynolds, M.R.C.V.S., the Veterinary Superintendent, has kindly supplied the following tables, which indicate the magnitude of the important operations carried out by the staff under his control.





TABLE No. 2.

SERVICE FOR THE COLLECTION AND REMOVAL OF DRY ASHPIT ASHES.

Notices Received.	Ashpits Emptied.	Loads of Dry Ashes.								Average Daily Working Staff.			Analysis of Work.		Average contents of each Ashpit.
		Number Removed.	Where Deposited.						Ashpit Men.	Carts and Wagons.	Horses.	Loads per Man per Day.	Loads per Cart per Day.		
Chisenhale Street.	Sandhills.		River Craft Dock.	Wavertree.	Rathbone Road Destructor.	Smithdown Road Destructor.	Rubbish Tips &c.								
1,658	662,854	93,176	19,698	22,139	20,241	—	6,207	5,283	19,608	122·3	90·5	90·9	2·4	3·3	·14

It will be observed that the number of notices received to empty ashpits is only ·2 per cent. of the total number of ashpits actually emptied. The number of brick ashpits within the old City and Added Areas is approximately 65,000, and the figures show that the average number of times each ashpit was emptied was 10· From the 65,000 pits 93,176 loads were removed, therefore, the average contents at each time of emptying was only ·14 of a load.

TABLE No. 3.  
SERVICE FOR THE COLLECTION AND REMOVAL OF BELL CART ASHES.

The bell cart service is one of the greatest importance, as it provides the means for the daily removal of domestic refuse from shops, business premises, and dwellings, which have not any convenience for the storage of ordinary household waste except from day to day. The service is also one demanding, not only regular attention as regards daily observance, but it must be conducted at certain hours of the morning to suit the convenience of the tenants.

It is an exceedingly important service from a sanitary point of view, and householders should avail themselves of its advantages to the fullest.

Loads Removed.	Where Deposited.						Carts Employed.	
	Chisenhale Street.	Sandhills.	River Craft Dock.	Wavertree Siding.	Rathbone Road Destructor.	Smithdown Road Destructor.		Rubbish Tips.
20,997	9,128	2,237	6,618	..	862	1,252	900	19.2

TABLE No. 4.  
SERVICE FOR FLUSHING AND CLEANSING TROUGH WATER CLOSETS.

Number of Urinals.	Number of Trough Water Closets.	Average Working Staff.	
		Trough W. C. Men.	Urinal Men.
233—728 Stalls.	2,419	38.4	15.1

The regular and frequent flushing of trough water closets has a material influence upon the maintenance of public health, more especially so as this form of closet has been found necessary for the tenants of confined and densely-populated portions of the City. During the Summer months a large number of the urinals and the major proportion of the trough water closets are cleansed and disinfected twice daily. During the remaining part of the year each receives daily attention.



TABLE No. 5.

SERVICE FOR CLEANSING, COLLECTION, AND REMOVAL OF REFUSE FROM STREETS, COURTS, PASSAGES, &c.

Not less than 104,790 loads of sweepings from the streets were removed during the year. There is included in this quantity some proportion of ashpit and domestic refuse, since there are certain quarters of the City where the people make a practice of throwing the house refuse upon the street surface, rather than go to the trouble of conveying it to the stall provided for its reception.

Many of the back streets are strewn with such material, necessitating the frequent sweeping of this class of street by barrowmen going over the areas more than once daily, and the refuse is removed with the ordinary street sweepings.

Loads of Street Sweepings Removed.							Average Daily Staff.					Average Number of Loads Removed Daily per Cart.
Total Number Removed.	Where Deposited						Scavengers.	Sweeping Machines.		Carts.	Horses.	
	Chisenhale Street.	Sandhills.	Wavertree.	River Craft Dock.	West Derby Destructor.	Toxteth Park Destructor.		Day.	Night.			
104,790	46,628	12,840	3,500	20,363	—	—	351·9	8·2	17·1	86·7	86·7	3·9
						Refuse on Tips.						

TABLE No. 6.

CLEANSING AND REMOVAL OF REFUSE FROM STREETS, COURTS, AND PASSAGES ON SUNDAYS.

On Sunday mornings it is the practice to send out a number of men and carts to clear some of the principal streets in the central parts of the City, and also to remove the domestic refuse from the more insanitary districts. Both upon the grounds of appearance and comfort, no less than for the health of the inhabitants, it is desirable that such material should not be allowed to remain in the vicinity of dwellings during the whole of Sunday. The Sunday morning service is necessarily an expensive one, as the men are paid a higher rate for a few hours work on that morning than for their labour upon the other days of the week.

Loads of Street Sweepings.										
Removed.			Where Deposited.						Average Daily Staff.	
Manure.	Refuse.	Total.	Chisenhale St.		Sandhills.		River Craft Dock.		Tips.	
			Manure.	Refuse.	Manure.	Refuse.	Manure.	Refuse.	Manure.	Refuse.
1,512	2,596	4,108	1,141	732	10	549	7	1,231	354	84
									185·4	37·3

TABLE No. 7.

SERVICE FOR STREET WATERING.

A great quantity of water is spread upon the streets during the Summer months, and a small proportion of the total is also used for washing their surfaces throughout the year under certain conditions of weather. It may be taken that nearly 64 million gallons of water were distributed during the season ; a small proportion of the whole being taken from the salt-water mains.

FRESH WATER.

SALT WATER.

Number of Days on which Carts were out.	Total Number of Loads Distributed.				Average Daily Staff employed during the Season.		Average No. of Loads Distributed Daily per Cart.	
	Large.		Small.		Watermen.	Carts and Horses.	Large.	
			Day.	Night.				
	Day.	Night.	Day.	Day.				
208	193,727	25,889	18,252	24·2	34·8	20·3		
89	1,852	..	..	·4	·6	34·6		



TABLE No. 8.

REMOVAL OF GARBAGE FROM ABATTOIR.

	Where Deposited.			Carts employed Daily.
	Chisenhale Street.	Sandhills.	River Craft Dock.	
Loads Removed.				
1,563	1,248	13	302	1·3

The removal of the Abattoir garbage and horse and cow manure, although small in amount, is of advantage to the department in enabling it to more economically dispose of a certain quantity of refuse which, without admixture with this material, would be unsaleable, and entail a considerable additional cost for final disposal.

TABLE No. 9.

REMOVAL OF HORSE, COW, AND FOWL MANURE.

GRAND TOTAL.			CHISENHOLE STREET.			RIVER CRAFT DOCK.			SANDHILLS.			WAVERTREE.			
Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.
912	582	161	1,655	382	321	161	864	368	261	..	629	53	..	..	109

**TABLE No. 10.**  
**DESPATCHES OF MANURE AND REFUSE.**

	Saleable Manure.				Unsaleable Refuse.					Grand Total in Tons.	Average Daily Staff.	
	Night Soil.	Sweepings.	Mixture.	Total.	Contractors.	Farmers.	Depôts.	Sea.	Destructor.	Total.	Inspectors and Foremen.	Labourers.
Chisenhale St., by Flats..	..	1,536	5,136	6,672	816	53,280	432	..	..	54,528	}	23·5
Sandhills, do. ..	..	..	..	..	432	11,424	3,456	..	..	15,312		
Do., by Rail ..	..	903	23	926	..	8,971	..	..	..	8,971		
Wavertree do. ..	..	2,208	..	2,208	..	1,288	..	..	..	1,288	..	2·1
Chisenhale Street and Sandhills, <i>viâ</i> Stanley D'k	..	..	..	..	..	..	..	1,091	..	1,091	}	3·4
per "Alpha" .....	..	..	..	..	..	..	..	74,515	..	74,515		
per "Beta" .....	..	..	..	..	..	..	..	..	..	583		
River Craft Dock.....	..	1,490	3,254	4,744	..	583	..	73,838	..	73,838	}	5·9
Do., per "Alpha" .....	..	..	..	..	..	..	..	8,055	..	8,055		
Do., per "Beta" .....	..	..	..	..	..	..	..	..	..	29,586		
Chisenhale Street Wharf.	..	..	..	..	..	..	..	..	29,586	29,586	..	..
Rathbone Road .....	..	..	..	..	..	..	..	..	6,185	6,185	..	..
Smithdown Road .....	..	..	..	..	..	..	..	..	6,405	6,405	..	..
	..	6,137	8,413	14,550	1,248	75,546	3,888	157,499	42,176	280,357	2·	89·5

The foregoing Table shows that in all not less than 294,907 tons of town refuse have been disposed of by the various means available for the purpose. Large as the total is, it does not represent the quantity actually collected and carted to the Wharves, for during the Winter months a large proportion of the street sweepings consists of a quantity of water, which is drained out before it is dispatched from the Wharves and Railway Sidings.



TABLE No. 11.

Deals with the horses employed on the various works belonging to the Health Committee. Among the stud, the percentage of mortality was 2·2, the number purchased for renewal was 52, and the percentage of ineffectives 2·

HORSES.—DAILY AVERAGE NUMBER.

Hired.	Corporation Horses.				Supplied for various Works.																							
Number.	Number.	Effective for Work.	Percentage of Ineffectives.	At Work every Sunday.	Scavenging.												City Engineer.				Disinfecting Vans.							
42·1	309·	302·7	2·	37·3	Night Ash Removal.	Dry Ash Removal.	Sundry Ash Tips.	Bell Ash Removal.	Street Scavenging.	Sweeping Machines, Day.	Sweeping Machines, Night.	Yard, Stables, Stores, Wharves, &c.	Market.	Superintendents	Watering.	Watering before Street Machines.	Carr Hall.	Messengers.	Abattoir.	Paving.	Sewers Cleansing.	Brownlow Street.	Watering before Steam Roller.	Canals.	Parks.	May Day and Not Ordered.	Carting Salt.	Disinfecting Vans.
					3·2	90·5	·4	19·2	86·7	8·2	17·1	5·2	1·3	3·	19·	4·5	5·6	4·	1·3	41·4	8·7	1·	2·7	3·1	·3	4·6	·2	13·6

New Horses.		Number Disposed of.		
Purchased.	Bred.	Died.	Destroyed.	Sold.
52	2	4	3	38
			2·2	

TABLE No. 12.

AVERAGE DAILY STAFF OF MEN EMPLOYED.

Dealing with the number of men actually employed upon the different services, it will be noted that there is a total of 1,198·6 men always employed.

The trough-closet men number 38·4, and these cleanse once daily in Winter, and in a large number of cases twice daily in Summer—2,419 trough water closets.

Upon the 233 urinals, comprising 728 stalls, 15·1 men were employed, giving an average per man of 48 stalls daily.

The employment of 122·3 ashmen proved sufficient to maintain in first-rate order the 65,000 ashpits contained within the old City and Added Areas, and were capable of emptying these receptacles upon an average of 10· times during the twelve months. The disposal of refuse entailed the employment of 88·5 wharf labourers, in addition to 33·3 hands employed upon the steam hopper and canal barges.

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General.	Night Service.				Day Service.																	Stables, Yards, and Stores.				Workshops.				Wharves, Depôts, &c.								Grand Total.	1198·6			
	Inspectors	Midden Men.	Wharf Men	Total.	Inspectors.	District Storekeepers.	Watermen	Barrow Men.	Sweepers.	Cart Followers.	Passage Men.	Gully Men.	Washing Courts, &c.	Trough Closet Men	Urinal Men.	Casual.	Ash Men.	Boat Men.	Crews Hopper Barges.	Carr Hall Farm.	Orderly Boys.	Total.	Horsekeepers.	Night Watchmen.	Carters, Yardmen, Stable-men, and Storekeepers.	Total.	Cartwrights and Labourers.	Blacksmiths and Strikers.	Painters.	Total.	Inspector.	Labouers.	Chisenhale St. and Sandhills.	Inspector.	River Craft Dock.	Foreman (Jersey Lane, Aintree, and Ford.	Labouers.			Foreman.	Various Town Deposit Places.	Foreman.
6·9	1·	6·9	1·	8·9	26·8	10·8	12·3	78·5	202·2	86·7	37·	26·	7·6	38·4	15·1	7·6	122·3	9·2	24·1	6·8	26·2	737·4	5·	290·6	300·6	15·1	22·4	4·4	41·9	1·	22·5	60·5	1·	60·5	1·	1·1	·	5·4	·	3·4	95·9	

TABLE No. 13.

Daily Consumption of Provender and Weekly Cost per Horse per Week.  
Food and Litter.

Days Keep.	Total Consumption of Food.		Daily Average Consumption per Horse.	Weekly Cost of each Horse's Keep.
114,151	Corn .....	12,979 centals.	Lbs. 11·37	
	Beans and Peas ..	4,200 "	3·68	
	Oats .....	428 "	·37	
	Bran .....	2,367 "	2·07	Gross weekly cost 9s. 8 <sup>3</sup> / <sub>4</sub> d.
	Meal ... ..	489 "	·43	Credit value of Manure ..... 6d.
	Linseed.....			
	Roots .....	692 "	} 2·48	Net. 9s. 2 <sup>3</sup> / <sub>4</sub> d.
	Grass.....	2,142 "		
	Hay .....	13,783 "	12·07	
	Straw .....	8,142 "	7·13	
	Peat Moss .....	1,533 "	} 1·34	
	Sawdust .....			





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# INSANITARY PROPERTY.

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INSANITARY PROPERTY.

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Most of the 240 houses included in the Thirteenth Presentment had, by the end of the year 1896, been dealt with by the Insanitary Property Committee, and, out of the very large number of insanitary houses urgently calling for attention, the Medical Officer found it necessary to report a considerable number to be laid before the Grand Jury at the Sessions.

On 5th January, 1897, the Grand Jury took into consideration the report of the Medical Officer relating to 890 houses, and the Grand Jury having heard evidence in regard to the property, and having by members of their body viewed the houses presented, concurred in the Medical Officer's view that the houses in question were unfit for human habitation, and in a condition, state, and situation injurious, dangerous, and prejudicial to health, and they ordered the property to be demolished under the terms of the Liverpool Sanitary Amendment Act, 1864. At the time of the Presentment, 207 of the dwellings were untenanted, temporarily at all events, owing to their ruinous dilapidation and decay.

Any expectations which may have been entertained, that, by taking a larger number of houses at the same presentment, the application of the proper remedy would be facilitated, were not, however, realised, and the great legal difficulties in the way of acquiring the property may be indicated by the fact that on 31st December, 1897, only 383 of the 890 houses had been dealt with, and no less than 507 houses were still standing, 325 of them being tenanted, notwithstanding the concensus of opinion, shared alike by medical and lay judgment, that they were dangerously insanitary.

Before repeating the outline of evidence laid before the Grand Jury in regard to the property in question, it may be remarked that fear has been expressed lest the demolition of this class of property may cause overcrowding elsewhere. It must be remembered, however, that the areas, as they are cleared, have suitable cottages built upon them to which those temporarily displaced can return. There is little room for doubt that the real danger in the future will lie in the rapidity with which these neglected hovels are falling into a condition of decay, which renders further habitation impossible. For this reason many of them are abandoned even by the poorest, and, as a consequence, areas which might with advantage be occupied by dwellings suitably planned for artisans, are encumbered with ruinous tenements, obstructing light and ventilation, mere receptacles for



rubbish and filth, whilst their former tenants are shifting into sub-let lodging-houses of the lowest class in the vicinity. Delay, protracted owing to the difficulties in overcoming legal obstacles, is accentuating the evil, and at the present rate of progress, at least a quarter of a century must elapse before the whole of the insanitary property is dealt with.

It must not be over-looked that much of the property was erected from half-a-century to a century ago, so that each year of its existence adds to the structural disrepair and to the mischief incidental to it.

The general description of the property is as follows:—

The houses consist of three rooms placed one above the other, connected with staircases leading directly from one room to the other, as a rule without any intermediate landing, so that practically the same atmosphere pervades each of the three rooms.

The houses are back to back and side to side with others of similar structure; there are no back windows nor side windows, nor consequently any through ventilation. There is no yard space nor water-closet private to each house, a circumstance involving a great deal that is prejudicial to decency and health. There is no water supply direct to each house.

The houses are arranged in courts, the entrances to which are narrowed, or even converted into tunnels, by the contiguous street houses.

The water supply is by stand-pipes in the court, and the receptacles for ashes or other refuse are also placed in the courts for the common use of the inhabitants.

The w.c.'s being outside the dwellings at an exposed place in the court, are difficult of access by night or in bad weather, and in times of sickness. This leads to the practice of retention of excrement in vessels in the already foul rooms, or to its deposit upon the tunnel entrance or surface of the court. Commonly the windows of two houses look directly upon the dilapidated erection used as the w.c.

In some instances the brickwork is still good, yet on the whole the property is in a general condition of dilapidation and ruin. The interior walls and ceilings are stained and discoloured by saturation by vapour of breath, and are foul smelling. Some few of the houses have an insufficient cross ventilation, sometimes on the lower floors, sometimes on the upper, inasmuch as the window is on one side and the door on the other; but the restricted spaces about these dwellings, and the proximity of the privy or ashpit, render this of doubtful advantage. The condition of the interior of these is the same as in other dwellings, and in regard to repair, there is little to choose between these houses and the rest.

The owners of this worn-out property do not give it the attention it calls for, indeed it is obvious that only one real remedy exists, namely, demolition. But while it is admittedly impossible to render the property sanitary, there are many minor details which call for attention, but which the owners are loth to remedy, perhaps thinking it useless to expend further money.

The neglect of pressing sanitary requirements is indicated by the fact that during a single year no less than 779 notices were issued from the Sanitary Department to the owners of the property in question to cause the abatement of nuisances, more or less flagrant, such as choked and defective drains, defective closet seats and doors, dangerous cellar areas, dangerous roofs, defective and dangerous flags, and such like. In addition to these, 98 notices were sent during the past twelve months under the Public Health Act to remedy nuisances arising from dirt and filth alone.

The average annual death rate for the whole of the presented property during the three years ending 1895 is 42 per 1,000 of the inhabitants; it varies in different groups from 30·3 per 1,000 in the Gore Street group, up to 79·6 per 1,000 in the Paul Street group; that for the whole City during the same period is 25·3 per 1,000; and the average death rate for the dwellings in Victoria Square is 22 per thousand.

The arguments brought forward to check the action of the Insanitary Property Committee in ridding the City of these centres of disease and degradation have been met time after time, and if any argument were needed in favour of the action of the Committee, it is furnished by the results of their work so far as it has gone, and those who are not familiar with it, can, by visiting areas which have been dealt with, and contrasting them with unrepresented property, satisfy themselves as to the general improvement which has been effected.

With regard to the alleged unhousing of the people and leaving them unprovided with adequate accommodation, it may be stated that the total population displaced by the removal of the houses reported upon will be 3,272, and as 890 houses will be demolished, it gives the population at 3·7 per house, but 207 of the houses were unoccupied, namely, 143 in courts and 64 fronting the street, making the population per occupied house equal to 4·8 per house.

There need be no apprehension that the removal of these insanitary centres will lead to over-crowding elsewhere, for there is ample accommodation for those displaced within a short radius of the presented areas, in many cases better, in no cases worse, than the houses which they now



occupy. Thus, taking the property in groups, there is within a quarter of a mile radius of the central streets in those groups, and not including the property presented for demolition, a total of 1,789 houses vacant. Deducting from this 294 houses temporarily closed by the owners, leaves 1,495 houses empty within this radius. Of these 1,131 are court houses at a rental ranging from 2s. 3d. to 4s. per week, 276 are front houses, without through ventilation, at a rental averaging 4s. 6d., and 382 are front houses with through ventilation, rental in no case exceeding 6s. per week. There is, therefore, within a quarter of a mile radius, one house for every two persons displaced—these houses in no case being worse, many amongst them being better than those from which the population will be displaced.

It is a significant fact that in presentments of property of this kind, no medical man has been found who would come forward and say one word in favour of the continued occupation as dwellings of this property.

The condition of the property is indicated by the appended plans, which show how closely the houses are packed together. The part coloured pink is that dealt with in the presentment, other property occupying the parts coloured blue. An idea of their general character is given by the photographs, which will repay an attentive scrutiny.

#### LABOURERS' DWELLINGS.

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The Labourers' Dwellings in Gildarts Gardens have been erected by the Insanitary Property and Artizans' Dwellings Committee to supply a want which has been much felt as one of the results of the operations of the Committee in demolishing insanitary houses, but which has hitherto been unsupplied.

The intention is to provide for the respectable tenants of the demolished houses dwellings constructed on sanitary principles, at little (if any) higher rents than those of the court-houses which they formerly inhabited. Anything which would be likely to attract tenants of a better class has been avoided in the erection of the dwellings in Gildart's Gardens; and in the letting of them, preference is given to those who have been dispossessed through the action of the Committee, provided that they appear to be both able and willing to pay the small sums demanded, and to take reasonable care of the houses.

In fixing the rents, the Committee have aimed at a unit of one shilling per room per week, reckoning the scullery and water-closet as equivalent to



half-a-room, and the yard (in the case of the ground floor houses) as worth another 6d. a week.

The rents charged, generally, are 3s. 6d. a week in the ground storey, and 2s. 6d. a week in the upper storeys—the Corporation, of course, paying all rates and taxes.

In a few cases where the rooms are larger or smaller than usual, the unit has been somewhat departed from.

#### FOURTEENTH PRESENTMENT.

The property presented and ordered by the Grand Jury on Jan. 5th to be demolished, is as follows:—

The court known as No. 1 court in LLANWRST STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 1 court.

The dwelling-houses numbered 1 and 3 in LLANRWST STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 3 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 3, 5 and 7 in the said No. 3 court.

The dwelling-house numbered 5 in LLANRWST STREET aforesaid, contiguous to No. 3 court in the said street.

The court known as No. 5 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 5 court.

The dwelling-houses numbered 9 and 11 in LLANWRST STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 7 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 7 court.

The dwelling-houses numbered 13 and 15 in LLANRWST STREET aforesaid, contiguous to No. 7 court in the said street.

The court known as No. 9 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4 and 5 in the said No. 9 court.

The dwelling-house numbered 17 in LLANRWST STREET aforesaid, contiguous to No. 9 court in the said street.

The court known as No. 2 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 2 court.

The dwelling-house numbered 10 in LLANWRST STREET aforesaid, contiguous to No. 2 court in the said street.

The dwelling-house numbered 13 in SHELLEY STREET in the City aforesaid, contiguous to No. 2 court in LLANRWST STREET.

The court known as No. 4 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 in the said No. 4 court.

The dwelling-houses numbered 12 and 14 in LLANRWST STREET aforesaid, contiguous to No. 4 court in the said street.

The dwelling-houses numbered 15 and 17 in SHELLEY STREET aforesaid, contiguous to No. 4 court in LLANRWST STREET.

The court known as No. 6 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 in the said No. 6 court.

The dwelling-houses numbered 16 and 18 in LLANRWST STREET aforesaid, contiguous to No. 6 court in the said street.

The dwelling-houses numbered 19 and 21 in SHELLEY STREET aforesaid, contiguous to No. 6 court in LLANRWST STREET.

The court known as No. 8 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 3, 5, 7, 9, 11 and 12 in the said No. 8 court.

The dwelling-house numbered 22 in LLANRWST STREET aforesaid, contiguous to No. 8 court in the said street.

The dwelling-houses numbered 23 and 25 in SHELLEY STREET aforesaid, contiguous to No. 8 court in LLANRWST STREET.

The court known as No. 10 court in LLANRWST STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 10 court.

The dwelling-house numbered 24 in LLANRWST STREET aforesaid, contiguous to No. 10 court in the said street.

The dwelling-house numbered 27 in SHELLEY STREET aforesaid, contiguous to No. 10 court in LLANRWST STREET.

The court known as No. 2 court in GORE STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 in the said No. 2 court.

The dwelling-houses numbered 10, 12 and 14 in GORE STREET aforesaid, contiguous to No. 2 court in the said street.

The dwelling-house numbered 38 in COOPER STREET in the City aforesaid, contiguous to No. 2 court in GORE STREET.

The court known as No. 4 court in GORE STREET aforesaid,

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 in the said No. 4 court.

The dwelling-houses numbered 16, 18 and 20 in GORE STREET aforesaid, contiguous to No. 4 court in the said street.

The dwelling-houses numbered 32 and 36 in COOPER STREET aforesaid, contiguous to No. 4 court in GORE STREET.

The court known as No. 6 court in GORE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 6 court.

The dwelling-houses numbered 22, 24, 26 and 28 in GORE STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 2 court in COOPER STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 2 court.

The dwelling-houses numbered 26 and 30 in COOPER STREET aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 1 court in UPPER HARRINGTON STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 8 in the said No. 1 court.

The dwelling-houses numbered 27 and 29 in UPPER HARRINGTON STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 3 court in UPPER HARRINGTON STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 3 court.

The dwelling-house numbered 31 in UPPER HARRINGTON STREET aforesaid, contiguous to No. 3 court in the said street.

The dwelling-houses numbered 30, 32 and 34 in GORE STREET aforesaid, contiguous to No. 3 court in UPPER HARRINGTON STREET.

The dwelling-house numbered 33 in UPPER HARRINGTON STREET, in the said City.

The court known as No. 1 court in BEVIN LANE in the City of Liverpool.

The dwelling-houses numbered 2 and 3 in the said No. 1 court.

The court known as No. 3 court in BEVIN LANE aforesaid.

The dwelling-houses numbered 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17 in the said No. 3 court.

The court known as No. 2 court in BEVIN LANE aforesaid.



The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 2 court.

The dwelling-houses numbered 2, 4 and 6 in BEVIN LANE aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 4 court in BEVIN LANE aforesaid.

The dwelling-houses numbered 1, 2, 3, 4 and 5 in the said No. 4 court.

The dwelling-houses numbered 8, 10, 12, 14, 16 and 18 in BEVIN LANE aforesaid, contiguous to No. 4 court in the said street.

The dwelling-house numbered 13 in COOPER STREET aforesaid, contiguous to No. 4 court in BEVIN LANE.

The court known as No. 2 court in STANHOPE STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 in the said No. 2 court.

The court known as No. 1 court in COTTER STREET in the City of Liverpool.

The dwelling-houses numbered 1 and 3 in COTTER STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 3 court in COTTER STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 3 court.

The dwelling-houses numbered 5, 7 and 9 in COTTER STREET aforesaid, contiguous to No. 3 court in the said street.

The dwelling-houses numbered 14, 15, 16, 17, 19, and 21, in COTTER STREET, in the said City.

The court known as No. 5 court in COTTER STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 5 court.

The dwelling-houses numbered 11 and 13 in COTTER STREET aforesaid, contiguous to No. 5 court in the said street.

The dwelling-houses numbered 1, 3 and 5 in COTTER PLACE in the City of Liverpool, contiguous to No. 5 court in COTTER STREET.

The court known as No. 2 court in COTTER STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 2 court.

The dwelling-houses numbered 10 and 12 in COTTER STREET aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 6 court in COTTER STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 6 court.

The dwelling-houses numbered 20 and 22 in COTTER STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 8 court in COTTER STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 8 court.

The dwelling-houses numbered 4 and 8 in COTTER PLACE, in the said City.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, in RICHARDS PLACE, COTTER STREET, in the said City.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6, in RYLAND STREET, in the said City.

The court known as No. 1 court in KEMPSTON STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 1 court.

The dwelling-houses numbered 35 and 37 in KEMPSTON STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 5 court in KEMPSTON STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 5 court.

The dwelling-houses numbered 41 and 43 in KEMPSTON STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 7 court in KEMPSTON STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 7 court.

The dwelling-houses numbered 45 and 47 in KEMPSTON STREET aforesaid, contiguous to No. 7 court in the said street.

The court known as No. 9 court in KEMPSTON STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 9 court.

The dwelling-houses numbered 49 and 51 in KEMPSTON STREET aforesaid, contiguous to No. 9 court in the said street.

The court known as No. 11 court in KEMPSTON STREET aforesaid.

The dwelling-houses numbered 1, 2 and 3 in the said No. 11 court.

The dwelling-house numbered 59 in KEMPSTON STREET aforesaid, contiguous to No. 11 court in the said street.

The court known as No. 13 court in KEMPSTON STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 13 court.

The dwelling-houses numbered 61 and 63 in KEMPSTON STREET aforesaid, contiguous to No. 13 court in the said street.

The court known as No. 15 court in KEMPSTON STREET aforesaid.

The dwelling-houses numbered 1, 3, 5 and 7 in the said No. 15 court.

The dwelling-house numbered 65 in KEMPSTON STREET aforesaid, contiguous to No. 15 court in the said street.

The court known as No. 1 court in CRAVEN STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 1 court.

The dwelling-houses numbered 13 and 15 in CRAVEN STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 3 court in CRAVEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 3 court

The dwelling-houses numbered 17 and 19 in CRAVEN STREET aforesaid, contiguous to No. 3 court in the said street.

The court known as No. 5 court in CRAVEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 5 court.

The dwelling-houses numbered 21 and 23 in CRAVEN STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 2 court in LAMBERT STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 2 court.

The dwelling-house numbered 8 in LAMBERT STREET aforesaid, contiguous to the said No. 2 court in LAMBERT STREET.

The dwelling-house numbered 11 in CRAVEN STREET aforesaid, contiguous to No. 2 court in LAMBERT STREET.

The court known as No. 4 court in LAMBERT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 4 court.

The dwelling-houses numbered 10 and 12 in LAMBERT STREET aforesaid, contiguous to No. 4 court in the said street.

The court known as No. 6 court in LAMBERT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 6 court.



The dwelling-houses numbered 14 and 16 in LAMBERT STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 8 court in LAMBERT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 8 court.

The dwelling-houses numbered 18 and 20 in LAMBERT STREET aforesaid, contiguous to No. 8 court in the said street.

The court known as No. 2 court in DRYDEN STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 8 in the said No. 2 court.

The dwelling-houses numbered 14 and 16 in DRYDEN STREET aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 4 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 2, 3, 4 and 5 in the said No. 4 court

The dwelling-houses numbered 18, 20 and 22 in DRYDEN STREET aforesaid, contiguous to No. 4 court in the said street.

The court known as No. 6 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13 and 14 in the said No. 2 court.

The dwelling-houses numbered 24 and 26 in DRYDEN STREET aforesaid, contiguous to No. 6 court in the said street.

The dwelling-houses numbered 37 and 39 in RACHEL STREET, in the City of Liverpool, contiguous to No. 6 court in DRYDEN STREET.

The court known as No. 8 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 2, 4, 6, 8, 12, 14 and 16 in the said No. 8 court.

The dwelling-house numbered 34 in DRYDEN STREET aforesaid, contiguous to No. 8 court in the said street.

The dwelling-house numbered 47 in RACHEL STREET aforesaid, contiguous to No. 8 court in DRYDEN STREET.

The court known as No. 10 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 10 court.

The dwelling-houses numbered 38 and 40 in DRYDEN STREET aforesaid, contiguous to No. 10 court in the said street.

The court known as No. 12 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 12 court.

The dwelling-houses numbered 42 and 44 in DRYDEN STREET aforesaid, contiguous to No. 12 court in the said street.

The court known as No. 14 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 14 court.

The dwelling-houses numbered 46 and 48 in DRYDEN STREET aforesaid, contiguous to No. 14 court in the said street.

The court known as No. 18 court in DRYDEN STREET aforesaid.

The dwelling-house numbered 1 in the said No. 18 court.

The dwelling-house numbered 58 in DRYDEN STREET aforesaid, contiguous to No. 18 court in the said street.

The court known as No. 20 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 8 in the said No. 20 court.

The dwelling-houses numbered 68 and 70 in DRYDEN STREET aforesaid, contiguous to No. 20 court in the said street.

The court known as No. 22 court in DRYDEN STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 7 in the said No. 22 court.

The dwelling-houses numbered 72 and 74 in DRYDEN STREET aforesaid, contiguous to No. 22 court in the said street.

The court known as No. 5 court in RACHEL STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 5 court.

The dwelling-houses numbered 51 and 53 in RACHEL STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 7 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 7 court.

The dwelling-houses numbered 55 and 57 in RACHEL STREET aforesaid, contiguous to No. 7 court in the said street.

The court known as No. 9 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 9 court.

The dwelling-houses numbered 59 and 61 in RACHEL STREET aforesaid, contiguous to No. 9 court in the said street.

The court known as No. 11 court in RACHEL STREET aforesaid.

The dwelling-house numbered 1 in the said No. 11 court.

The dwelling-house numbered 63 in RACHEL STREET aforesaid, contiguous to No 11 court in the said street.

The court known as No. 13 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 13 court.

The dwelling-houses numbered 65 and 67 in RACHEL STREET aforesaid, contiguous to No. 13 court in the said street.

The court known as No. 17 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 8 in the said No. 17 court.

The dwelling-houses numbered 81 and 83 in RACHEL STREET aforesaid, contiguous to No. 17 court in the said street.

The court known as No. 6 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 6 court.

The dwelling-houses numbered 16 and 18 in RACHEL STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 8 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 8 court.

The dwelling-house numbered 20 in RACHEL STREET aforesaid, contiguous to No. 8 court in the said street.

The court known as No. 10 court in RACHEL STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 10 court.

The dwelling-house numbered 48 in RACHEL STREET aforesaid, contiguous to No. 10 court in the said street.

The court known as No. 2 court in BOUNDARY TERRACE, VIRGIL STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 2 court.

The dwelling-houses numbered 2 and 4 in BOUNDARY TERRACE aforesaid, contiguous to No. 2 court in BOUNDARY TERRACE.

The dwelling-house numbered 68 in RACHEL STREET, in the said City.

The court known as No. 4 court in BOUNDARY TERRACE aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 4 court.



The dwelling-houses numbered 6, 8 and 10 in BOUNDARY TERRACE aforesaid, contiguous to No. 4 court in BOUNDARY TERRACE.

The dwelling-houses numbered 70, 72, 74 and 76 in RACHEL STREET aforesaid, contiguous to No. 4 court in BOUNDARY TERRACE.

The dwelling-house numbered 63 in VIRGIL STREET, in the said City.

The dwelling-houses numbered 1, 3, 5, 7, 9, 11 and 13, BOUNDARY TERRACE, VIRGIL STREET, in the said City.

The court known as No. 9 court in COLLINGWOOD STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 9 court.

The dwelling-houses numbered 69, 71 and 73 in COLLINGWOOD STREET aforesaid, contiguous to No. 9 court in the said street.

The dwelling-houses numbered 1, 3, 5 and 7 in CREER STREET aforesaid, contiguous to No. 9 court in COLLINGWOOD STREET.

The court known as No. 11 court in COLLINGWOOD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 11 court.

The dwelling-houses numbered 75, 77 and 79 in COLLINGWOOD STREET aforesaid, contiguous to No. 11 court in the said street.

The dwelling-houses numbered 2, 4, 6 and 8, CREER STREET aforesaid, contiguous to No. 11 court in COLLINGWOOD STREET.

The court known as No. 13 court in COLLINGWOOD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 13 court.

The dwelling-houses numbered 81 and 83 in COLLINGWOOD STREET aforesaid, contiguous to No. 13 court in the said street.

The court known as No. 2 court in BEN JONSON STREET, in the City of Liverpool.

The dwelling-houses numbered 1 and 3 in the said No. 2 court.

The dwelling-house numbered 20 in BEN JONSON STREET aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 4 court in BEN JONSON STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 4 court.

The court known as No. 6 court in BEN JONSON STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4 and 5 in the said No. 6 court.

The court known as No. 5 court in BENT STREET, in the City of Liverpool.  
The dwelling-houses numbered 1 and 2 in the said No. 5 court.

The court known as No. 2 court in SCOTLAND ROAD, in the City of Liverpool.

The dwelling-houses numbered 1 and 3 in the said No. 2 court.

The court known as No. 2 court in NASH STREET, in the City of Liverpool.  
The dwelling-houses numbered 1, 2 and 3 in the said No. 2 court.

The dwelling-house numbered 8 in NASH STREET aforesaid, contiguous to No. 2 court in the said street.

The dwelling-houses numbered 3, 5 and 7 in NASH STREET, in the said City.

The court known as No. 4 court in NASH STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 4 court.

The dwelling-houses numbered 10 and 12 in NASH STREET aforesaid, contiguous to No. 4 court in the said street.

The court known as No. 6 court in NASH STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 6 court.

The dwelling-house numbered 14 in NASH STREET aforesaid, contiguous to No. 6 court in the said street.

The dwelling-houses numbered 11 and 13 in PEPPER STREET, in the City of Liverpool, contiguous to No. 6 court in NASH STREET.

The court known as No. 1 court in PEPPER STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 1 court.

The dwelling-houses numbered 3, 5, 7 and 9 in PEPPER STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 2 court in PEPPER STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 7 in the said No. 2 court.

The dwelling-houses numbered 4, 6 and 8 in PEPPER STREET aforesaid, contiguous to No. 2 court in the said street.

The dwelling-houses numbered 2, 10, 12 and 14 in PEPPER STREET, in the said City.

The dwelling-houses numbered 21 and 23 in RICHMOND Row, in the said City.

The court known as No. 7 court in CIRCUS STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 3, 5 and 7 in the said No. 7 court.

The dwelling-houses numbered 23 and 25 in CIRCUS STREET aforesaid, contiguous to No. 7 court in the said street.

The court known as No. 9 court in CIRCUS STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 9 court.

The dwelling-houses numbered 27 and 29 in CIRCUS STREET aforesaid, contiguous to No. 9 court in the said street.

The court known as No. 11 court in CIRCUS STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 11 court.

The dwelling-houses numbered 31 and 33 in CIRCUS STREET aforesaid, contiguous to No. 11 court in the said street.

The dwelling-houses numbered 4 and 6 in KILIN STREET, in the City of Liverpool, contiguous to No. 11 court in CIRCUS STREET.

The court known as No. 13 court in CIRCUS STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4 and 5 in the said No. 13 court.

The dwelling-houses numbered 35 and 37 in CIRCUS STREET aforesaid, contiguous to No. 13 court in the said street.

The dwelling-houses numbered 8, 10 and 12 in KILIN STREET aforesaid, contiguous to No. 13 court in CIRCUS STREET.

The court known as No. 2 court in PAUL STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 2 court.

The dwelling-houses numbered 8 and 10 in PAUL STREET aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 4 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 4 court.

The dwelling-houses numbered 12 and 14 in PAUL STREET aforesaid, contiguous to No. 4 court in the said street.

The court known as No. 6 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4 and 6 in the said No. 6 court.



The dwelling-houses numbered 16 and 18 in PAUL STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 8 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 8 court.

The dwelling-houses numbered 20 and 22 in PAUL STREET aforesaid, contiguous to No. 8 court in the said street.

The court known as No. 10 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 4 and 6 in the said No. 10 court.

The dwelling-houses numbered 24 and 26 in PAUL STREET aforesaid, contiguous to No. 10 court in the said street.

The court known as No. 12 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 12 court.

The dwelling-houses numbered 28 and 30 in PAUL STREET aforesaid, contiguous to No. 12 court in the said street.

The court known as No. 14 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 14 court.

The dwelling-houses numbered 32 and 34 in PAUL STREET aforesaid, contiguous to No. 14 court in the said street.

The dwelling-house numbered 42 in PAUL STREET, in the said City.

The court known as No. 18 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 18 court.

The dwelling-houses numbered 44, 46, 48 and 50 in PAUL STREET aforesaid, contiguous to No. 18 court in the said street.

The court known as No. 20 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 20 court.

The dwelling-houses numbered 52 and 54 in PAUL STREET aforesaid, contiguous to No. 20 court in the said street.

The court known as No. 22 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 22 court.

The dwelling-houses numbered 56 and 58 in PAUL STREET aforesaid, contiguous to No. 22 court in the said street.

The court known as No. 24 court in PAUL STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 24 court.

The dwelling-houses numbered 60 and 62 in PAUL STREET aforesaid, contiguous to No. 24 court in the said street.

The court known as No. 1 court in BISPHAM STREET, in the City of Liverpool.

The dwelling-houses numbered 3 and 5 in BISPHAM STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 3 court in BISPHAM STREET aforesaid.

The dwelling-house numbered 1 in the said No. 3 court.

The dwelling-houses numbered 7 and 9 in BISPHAM STREET aforesaid, contiguous to No. 3 court in the said street.

The court known as No. 5 court in BISPHAM STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 5 court.

The dwelling-houses numbered 13 and 15 in BISPHAM STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 7 court in BISPHAM STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 7 court.

The dwelling-houses numbered 17 and 19 in BISPHAM STREET aforesaid, contiguous to No. 7 court in the said street.

The court known as No. 9 court in BISPHAM STREET aforesaid.

The dwelling-houses numbered 1, 2 and 4 in the said No. 9 court.

The dwelling-houses numbered 21 and 23 in BISPHAM STREET aforesaid, contiguous to No. 9 court in the said street.

The court known as No. 11 court in BISPHAM STREET aforesaid.

The dwelling-houses numbered 1, 2 and 3 in the said No. 11 court.

The dwelling-houses numbered 39 and 41 in BISPHAM STREET aforesaid, contiguous to No. 11 court in the said street.

The court known as No. 13 court in BISPHAM STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 13 court.

The dwelling-houses numbered 43 and 45 in BISPHAM STREET aforesaid, contiguous to No. 13 court in the said street.

The court known as No. 15 court in BISPHAM STREET aforesaid.

The dwelling-houses numbered 1 and 3 in the said No. 15 court.

The dwelling-house numbered 47 in BISPHAM STREET aforesaid, contiguous to No. 15 court in the said street.

The court known as No. 2 court in PRIMROSE HILL, in the City of Liverpool.

The dwelling-house numbered 1 in the said No. 2 court.

The dwelling-houses numbered 4, 6 and 8 in PRIMROSE HILL aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 4 court in PRIMROSE HILL aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 4 court.

The dwelling-houses numbered 10, 12 and 14 in PRIMROSE HILL aforesaid, contiguous to No. 4 court in the said street.

The dwelling-houses numbered 16, 18, 24 and 30, in PRIMROSE HILL, in the said City.

The dwelling-house numbered 2 in Cow LANE, in the said City.

The court known as No. 6 court in PRIMROSE HILL aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 6 court.

The dwelling-houses numbered 26 and 28 in PRIMROSE HILL aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 1 court in Cow LANE, in the City of Liverpool.

The dwelling-houses numbered 1 and 2 in the said No. 1 court.

The dwelling-houses numbered 1 and 3 in Cow LANE aforesaid, contiguous to No. 1 court in the said Cow LANE.

The dwelling-houses numbered 20 and 22 in PRIMROSE HILL aforesaid, contiguous to No. 1 court in Cow LANE.

The court known as No. 3 court in Cow LANE aforesaid.

The dwelling-houses numbered 1, 2, 3, 4 and 5 in the said No. 3 court.

The dwelling-house numbered 5 in Cow LANE aforesaid, contiguous to No. 3 court in the said Cow LANE.

The court known as No. 4 court in CUNLIFFE STREET, in the City of Liverpool.

The dwelling-house numbered 2 in the said No. 4 court.

The court known as No. 8 court in VERNON STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 8 court.

The dwelling-houses numbered 32 and 34 in VERNON STREET aforesaid, contiguous to No. 8 court in the said street.

The court known as No. 10 court in VERNON STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 10 court.

The dwelling-houses numbered 36 and 38 in VERNON STREET aforesaid, contiguous to No. 10 court in the said street.

The court known as No. 12 court in VERNON STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 12 court.



The dwelling-houses numbered 44 and 46 in VERNON STREET aforesaid, contiguous to No. 12 court in the said street.

The court known as No. 14 court in VERNON STREET aforesaid.

The dwelling-house numbered 2 in the said No. 14 court.

The dwelling-house numbered 52 in VERNON STREET aforesaid, contiguous to the said No. 14 court in VERNON STREET.

The court known as No. 11 court in ORANGE STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 11 court.

The dwelling-houses numbered 31 and 33 in ORANGE STREET aforesaid, contiguous to No. 11 court in the said street.

The court known as No. 13 court in ORANGE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 13 court.

The dwelling-houses numbered 35 and 37 in ORANGE STREET aforesaid, contiguous to No. 13 court in the said street.

In addition to the foregoing dealt with by presentment, the Medical Officer of Health certified that the following premises were unfit for human habitation and ought to be demolished. These reports were laid before the Council and referred to the Insanitary Property Committee, who purchased the property, and caused it to be demolished:—

The court known as No. 2 court in SUMMER SEAT, in the City of Liverpool.

The dwelling-houses numbered 1, 2A, 2B, 3, 4, 5 and 6 in the said No. 2 court.

The dwelling-houses numbered 33 and 35 in GILDART'S GARDENS. in the said City.

The dwelling-houses numbered 53 and 55 in GASCOYNE STREET, in the said City.

The court known as No. 1 court in PAUL STREET, in the said City.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 1 court.

The dwelling-houses numbered 5 and 7 in PAUL STREET aforesaid, contiguous to No. 1 court in the said street.

The dwelling-houses numbered 12, 14, 16 and 18 in ALEXANDER POPE STREET, in the said City.

The dwelling-houses numbered 104 and 106 in FONTENOY STREET, in the said City.

The court known as No. 5 court in FONTENOY STREET, in the said City.

The dwelling-houses numbered 1 and 3 in the said No. 5 court.

The dwelling-houses numbered 59 and 61 in FONTENOY STREET aforesaid, contiguous to No. 5 court in the said street.

The dwelling-houses numbered 59 and 61 in LACE STREET, in the said City, contiguous to No. 5 court in FONTENOY STREET.

The dwelling-houses numbered 38 and 40 in LACE STREET aforesaid, contiguous to No. 12 court in the said street.

The dwelling-houses numbered 45 and 47 in LACE STREET, in the said City.

The court known as No. 11 court in LACE STREET, in the said City.

The dwelling-house numbered 1 in the said No. 11 court.

The dwelling-house numbered 21 in LACE STREET aforesaid, contiguous to No. 11 court in the said street.

The court known as No. 23 court in LACE STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 23 court.

The court known as No. 5 court in LACE STREET, in the said City.

The dwelling-house numbered 1 in the said No. 5 court.

The dwelling-house numbered 9 in LACE STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 12 court in LACE STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 12 court.

The premises (unnumbered) used as stables and cart-sheds in No. 11 court in RACHEL STREET, in the said City.

The dwelling-houses numbered 71, 73, 75 and 77 in VIRGIL STREET, in the said City.

The court known as No. 1 court in BIRKETT STREET, in the said City.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 in the said No. 1 court.

The dwelling-houses numbered 35 and 37 in BIRKETT STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 4 court in BRICK STREET, in the said City.

The dwelling-houses numbered 1, 3, 5, 6, 7 and 8 in the said No. 4 court.

The dwelling-houses numbered 6, 8 and 12 in BRICK STREET aforesaid, contiguous to No. 4 court in the said street.

The court known as No. 6 court in BRICK STREET, in the said City.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 6 court.

The dwelling-houses numbered 14 and 18 in BRICK STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 5 court in NORFOLK STREET, in the said City.

The dwelling-houses numbered 1, 3, 5 and 7 in the said No. 5 court.

The dwelling-house numbered 20 in BRICK STREET, in the said City, contiguous to No. 5 court in NORFOLK STREET.

The court known as No. 11 court in NORFOLK STREET, in the said City.

The dwelling-houses numbered 2, 4 and 6 in the said No. 11 court.

The court known as No. 7 court in CLIVE STREET, in the said City.

The dwelling-houses numbered 2, 4 and 6 in the said No. 7 court.

The dwelling-houses numbered 43 and 45 in CLIVE STREET aforesaid, contiguous to No. 7 court in the said street.



The dwelling-houses numbered 10, 12 and 14 in No. 10 court in SHELLEY STREET, in the said City.

The court known as No. 6 court or SALISBURY TERRACE in SHELLEY STREET, in the said City.

The dwelling-houses numbered 1, 3, 5, 7, 9, 11, 13 and 15 in the said No. 6 court.

The dwelling-houses numbered 12, 14 and 16 in SHELLEY STREET aforesaid, contiguous to No. 6 court in the said street.

The premises numbered 6 in COTTER PLACE, in the said City.

The court known as No. 7 court in COMBERMERE STREET, in the said City.

The dwelling-houses numbered 2, 4, 6 and 8 in the said No. 7 court.

The dwelling-houses numbered 31 and 33 in COMBERMERE STREET aforesaid, contiguous to No. 7 court in the said street.

The court known as No. 9 court in COMBERMERE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 9 court.

The dwelling-houses numbered 35 and 37 in COMBERMERE STREET aforesaid, contiguous to No. 9 court in the said street.

The dwelling-houses numbered 39 and 41 in COMBERMERE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 in BARKER'S ROW, SPRINGFIELD STREET, OLD SWAN, in the said City.

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Premises at 37, GILDARTS GARDENS, which obstructed light and ventilation, were conveniently dealt with under the Housing of the Working Classes Act.

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The City Engineer has kindly supplied the following tables:—

### INSANITARY PROPERTY.

#### INSANITARY PROPERTY PURCHASED, 1897.

Number of houses included in Thirteenth Presentment ...	144
„ „ Fourteenth Presentment...	319
Number of houses purchased by Insanitary Property Committee, included in Reports referred by Council to Committee ... ..	78
Total ...	541

#### INSANITARY PROPERTY DEMOLISHED, 1897.

Number of houses included in Thirteenth Presentment ...	143
„ „ Fourteenth Presentment ...	372
Number of houses demolished by Insanitary Property Committee, included in Reports referred by Council to Committee ... ..	90
Total ...	605











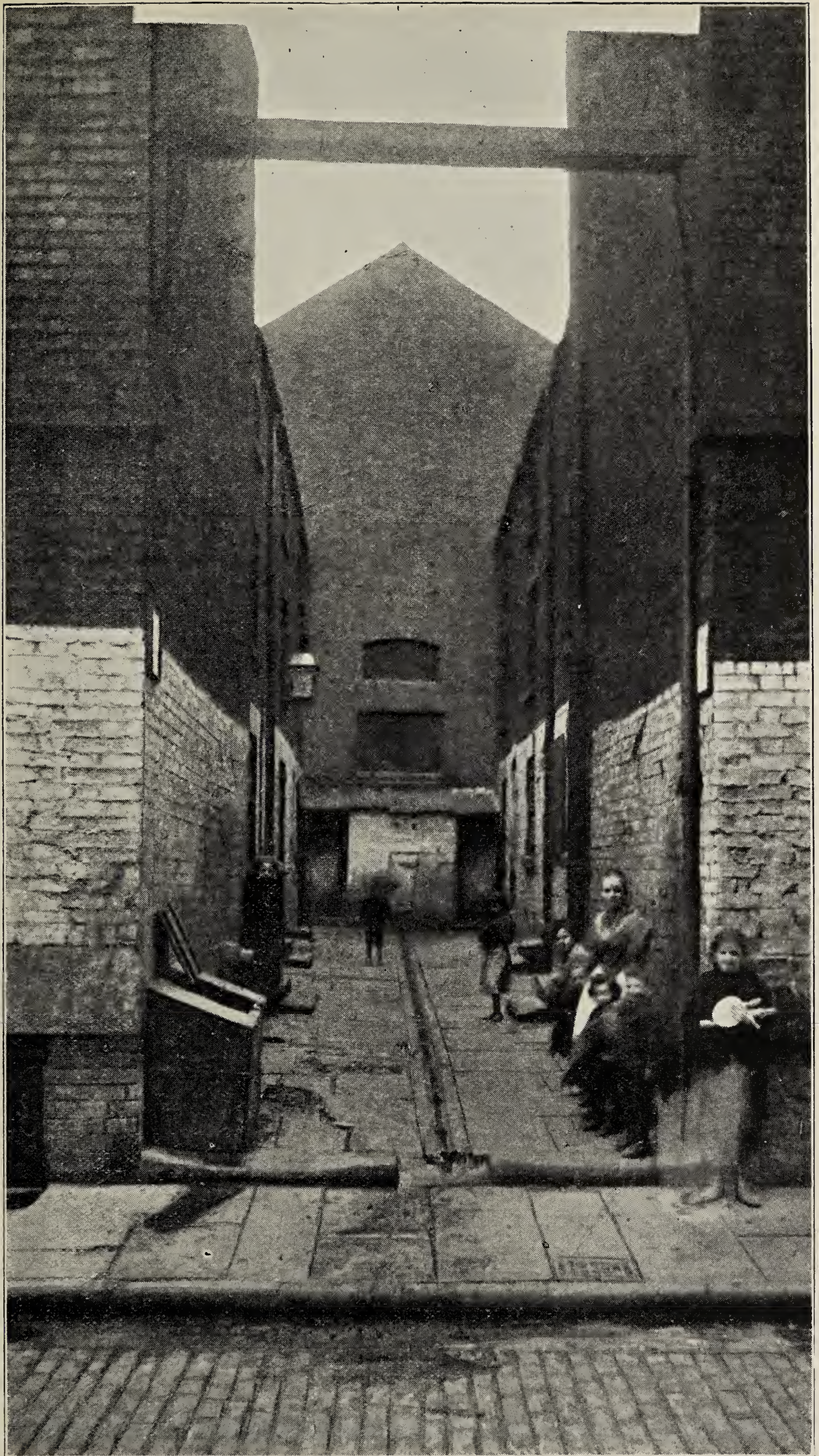








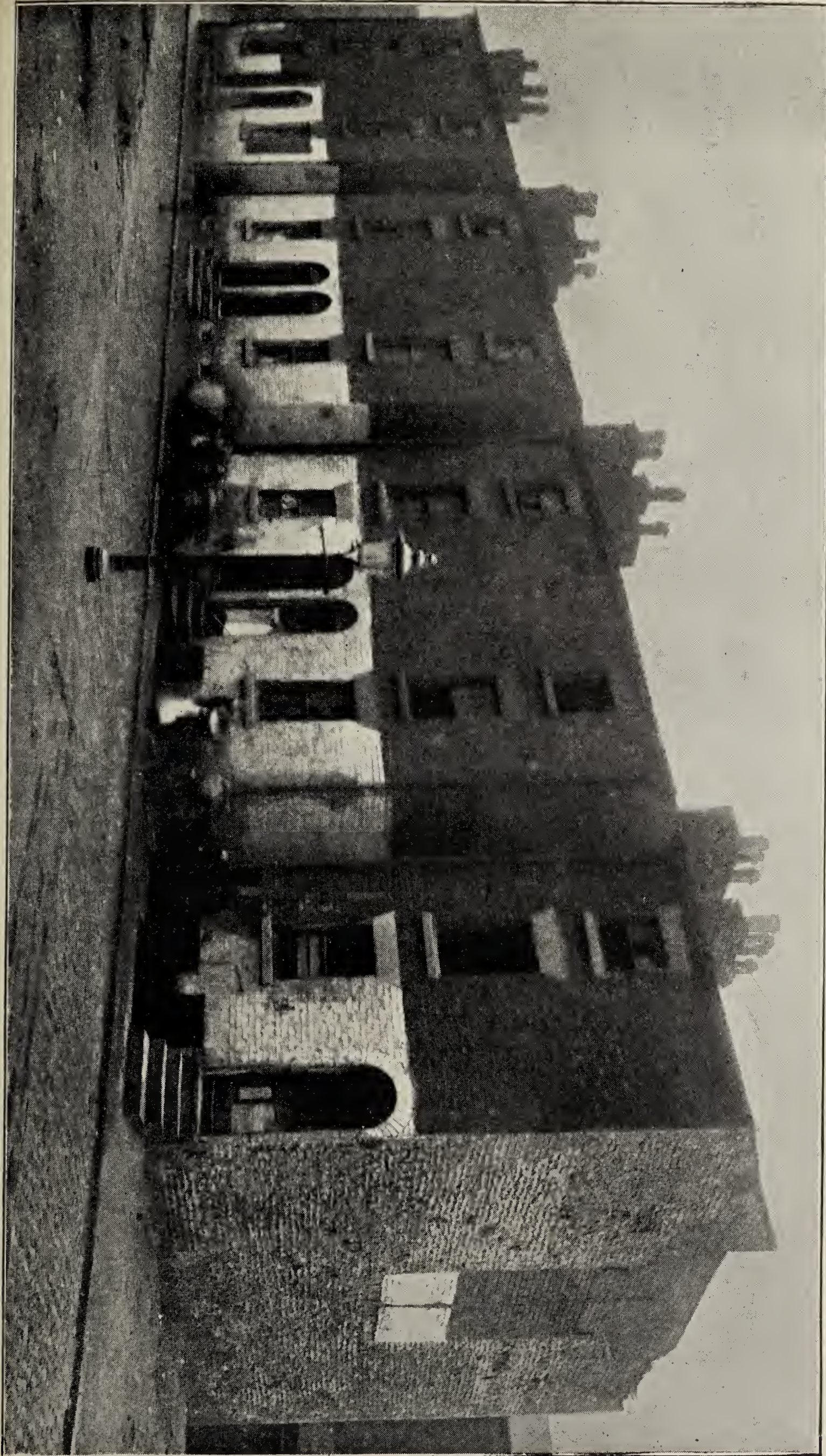




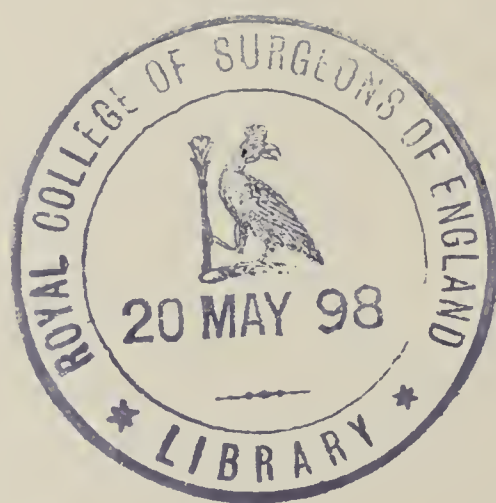












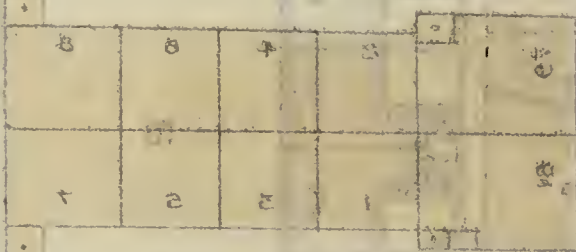
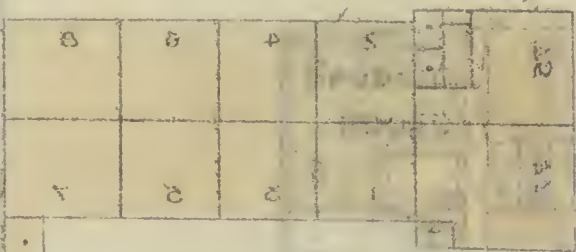
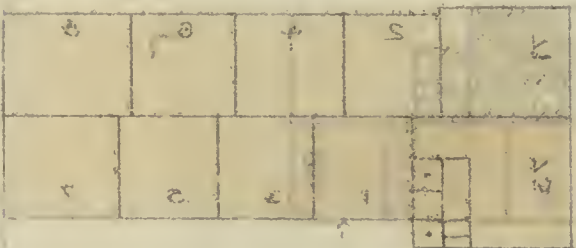






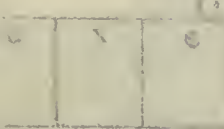
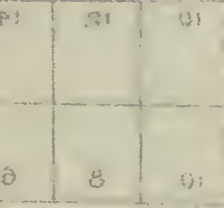
SCALE 4100 FEET = 1 INCH

C O L L I N G M O O D S T R E E



HOUSE  
PUBLIC

STREET



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## CITY HOSPITALS.

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## HOSPITAL ACCOMMODATION.

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For some years past attempts have been made to provide adequate hospital accommodation for the isolation and treatment of cases of infectious sickness which occur within the City. Time after time the subject has engaged the attention of the responsible Committees, and time after time it has been discussed in the Council.

In former years public opinion was wholly unformed upon the subject, and reports and discussions resulted in little more than temporary provision in times of serious epidemics, which from their unsuitable situation and tardy erection resulted in a minimum of benefit.

Moreover, in these times the Corporation acted in conjunction with the Destitution Authorities. Paupers were the only people provided for, and the circumstances attending admission into the hospital were identical in all respects with admission into the workhouse.

As years rolled on, although the accommodation provided by the Destitution Authorities was improved, alike in extent, situation and administration, yet the want of provision for those above the pauper class was so urgently felt that private enterprise founded the Netherfield Road Hospital for the accommodation of such patients. The Public Health Act of 1875 made it abundantly clear that the provision of hospitals for patients suffering from infectious sickness was a duty incumbent upon the authority charged with the preservation of the public health, and not upon those whose function it was to provide only for the relief of the destitute.

The Parochial Authorities, however, continued in the meantime to afford such facilities as they could for the isolation of the infectious sick, and this, creditable as it was, no doubt resulted in still further deferring action on the part of the Sanitary Authority, the Council and the public being equally far from realising the benefits which would result from it.



In 1882 the continued prevalence of disease (typhus fever) was attracting general attention, and a proposal to adopt the Notification Act met with opposition, largely on the grounds that in the absence of hospital accommodation such an Act would be useless.

About this time the want of hospital accommodation was further accentuated by the Toxteth Guardians, who made it plain that they were no longer able to provide for other than destitute persons.

In 1884, after much controversy and under the pressure of an outbreak of small-pox, land was acquired on a monthly tenancy at Parkhill, and upon the site a number of very temporary structures of canvas or Willesden paper were hurried up, which were afterwards replaced by more suitable structures.

The year 1887 saw the opening of the small hospital in Grafton Street. Subsequently the accommodation at the Parkhill Hospital was very largely augmented and improved, and last year a small and much-needed addition of 50 beds was made to the Netherfield Road Hospital.

During the year two of the temporary blocks at the City Hospital, Parkhill, were taken down, as they had become worn out, and it was not deemed expedient to repair them. This reduced the available accommodation by 50 beds, the existing amount of accommodation may therefore be summarised as follows:—

Netherfield Road	...	...	...	150 beds.
Grafton Street	...	...	...	80 „
Mill Lane	...	...	...	50 „
Priory Road	...	...	...	40 „
Parkhill	...	...	...	220 „
				<hr/>
				540 „
				<hr/>

Meanwhile the workhouse hospitals have been absolutely closed to infectious sickness, a partial exception being made in regard to Brownlow Hill

Workhouse Hospital, upon which the Corporation still depend for the treatment of a limited number of cases of some forms of infectious disease. What has been effected? The transfer of the responsibility from the Poor Law Authorities to the Sanitary Authority, and the provision by the latter of an instalment of what is required.

Hospitals have been largely instrumental in reducing mortality from small-pox and typhus fever to a comparatively unimportant figure. The advantage of the City Hospitals, hampered and crippled as it has been by the inadequate accommodation which they afford, is now a matter of public knowledge. The mortality from scarlet fever has diminished year by year to a remarkable extent, and almost in proportion to the number of patients which it was possible to accommodate in hospital.

There are, however, certain forms of disease mainly incidental to early life, for which no hospital provision whatever has yet been made; these show little, if any, tendency to decline.

The function of the hospital as a safeguard to the public against extension of disease is abundantly proved. The benefit of the patient is not less evident, for the percentage of recoveries is larger amongst patients treated in hospital than amongst patients treated in their homes.

The public appreciation of the value of such institutions is becoming more apparent every year, and demands are much more frequent than formerly for admission to them.

The Committee have during the year been confronted with the fact that the temporary accommodation at Parkhill, upon which reliance for the protection of the City mainly rests, may have to be relinquished.

Some available land at Fazakerley came into the market towards the latter part of the year, and after a careful consideration of all the circumstances connected with this site, the Committee decided to recommend the Council to purchase it, subject to the approval of the Local Government Board.

## INFECTIOUS DISEASE.

Table shewing the cases of Infectious Disease coming under the notice of the Medical Officer of Health during 1897, including those reported under the Notification Act.

Year—1897.	Fever.				Small Pox.	Scarlatina.	Measles.	Diphtheria.	Membranous Group.	Puerperal Fever.	Erysipelas.	TOTAL.
	Typhus.	Typhoid.	Simple.	Relapsing.								
January ..	20	47	1	..	..	290	107	39	5	7	137	654
February	18	35	3	..	..	260	120	28	3	5	97	569
March ..	14	41	8	..	4	291	264	30	7	6	106	771
April ..	11	52	1	..	1	183	444	18	5	5	114	834
May... ..	5	47	8		1	208	830	27	4	9	109	1,248
June ..	6	47	6	..	..	187	932	26	3	6	75	1,288
July... ..	16	67	4	..	..	164	449	24	6	2	103	835
August ..	5	118	6	..	..	281	132	21	3	..	86	652
September	24	132	7	..	..	294	129	31	1	5	101	724
October ..	20	179	6	1	..	340	338	45	5	5	125	1,064
November	12	143	18	..	..	262	314	49	10	5	102	915
December	7	83	10	..	..	241	330	32	8	5	115	831
TOTAL ..	158	991	78	1	6	3,001	4,389	370	60	60	1,270	10,385
Removed to Hospital	156	559	41	..	6	1,641	94	113	5	5	325	2,945

The number of patients removed to hospital includes those taken to General Hospitals as well as those taken to the City Hospitals.



# THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

The number of notifications received by the Medical Officer under the above Act, during the year was 6,234, as follows :—

	<u>1897.</u>	<u>1896.</u>	<u>1895.</u>
January	560	466	589
February	461	493	475
March	538	454	445
April	414	484	401
May	414	517	522
June	380	523	460
July	392	517	396
August	559	644	493
September	626	770	497
October	742	933	535
November	629	774	611
December	519	634	484
	<u>6,234</u>	<u>7,209</u>	<u>5,908</u>

The diseases were specified as follows :—

	<u>1897.</u>	<u>1896.</u>	<u>1895.</u>
Smallpox	7	11	142
Scarlet Fever	3,042	3,610	2,636
Typhoid	1,112	1,122	1,301
Typhus	110	185	111
Continued	80	120	102
Relapsing	1	5	2
Fever	18	26	30
Puerperal Fever	64	67	61
Diphtheria	394	492	289
Membranous Croup	69	95	78
Erysipelas	1,337	1,476	1,156
	<u>6,234</u>	<u>7,209</u>	<u>5,908</u>

NUMBER OF CASES REPORTED AND NUMBER REMOVED TO HOSPITALS, 1889-1897.

	SMALLPOX.		SCARLET FEVER.		TYPHOID.		TYPHUS.		MEASLES.	
	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.
1889.....	9	8	1,832	533	670	302	158	124	3,175	104
1890.....	2	2	3,520	938	506	296	103	87	4,013	152
1891.....	21	21	1,176	448	588	350	175	156	2,262	160
1892.....	177	177	1,554	603	699	345	73	70	3,376	150
1893.....	75	73	3,538	1,380	1,396	728	183	168	2,316	94
1894.....	229	226	3,963	1,415	1,350	745	325	312	2,494	122
1895.....	130	127	2,710	1,039	1,306	662	162	158	3,462	93
1896.. ...	8	8	3,584	1,589	1,063	539	305	298	2,930	138
1897.....	6	6	3,001	1,641	991	559	158	156	4,389	94

The following tables, prepared by the Medical Staff of each Hospital, show the number of patients, the nature of the illness, and the results, at each of the five City Hospitals during the year 1897 :—

### CITY HOSPITAL NORTH, NETHERFIELD ROAD.

*Visiting Physician, Dr. ROBERTSON.*

*Resident Physician, Dr. ROBINSON.*

DISEASES.	Remaining Dec. 31st, 1896.	Admitted During 1897.	Total under Treatment 1897.	Transferred to Parkhill Convalescent.	Discharged to other Hospitals.	Discharged to Homes.	Remaining Dec. 31st, 1897.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever . . . .	50	469	519	285	—	131	71	3	32	6·8
Typhus Fever ..	14	144	158	21	—	113	7	8	17	11·8
Enteric Fever ..	7	137	144	—	—	100	25	3	19	13·8
Puerperal Fever	—	1	1	—	—	1	—	—	—	—
Diphtheria . . . . .	—	1	1	—	1	—	—	—	—	—
Other Diseases ..	5	113	118	2	4	87	5	3	20	17·7
Totals . . . .	76	865	941	308	5	432	108	17	88	10·1

### SCARLET FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	
No. of cases . . . . .	160	190	90	18	9	—	2	469
No. of deaths . . . . .	23	9	—	—	—	—	—	32
Percentage of deaths	14·3	4·7	—	—	—	—	—	6·8



## TYPHUS FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	
No. of cases .....	7	19	57	20	20	15	6	144
No. of deaths . . . . .	1	—	—	3	5	6	2	17
Percentage of deaths	14·2	—	—	15·0	25·0	40·0	33·3	11·8

## ENTERIC FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	
No. of cases .....	8	24	46	35	14	7	3	137
No. of deaths . . . . .	—	3	6	4	1	4	1	19
Percentage of deaths	—	12·5	13·0	11·4	7·1	57·1	33·3	13·8

## OTHER DISEASES.

Disease.	Cases.	Deaths.
Measles .....	4	—
Chickenpox .....	1	—
Cellulitis.....	3	1
Intermittent Fever .....	1	—
Tuberculosis .....	3	3
Pneumonia .....	26	7
Bronchitis and Broncho Pneumonia .....	17	3
Pleurisy .....	1	1
Meningitis .....	3	2
Acute Nephritis .....	1	1
Cerebral Abscess .....	1	1
Morbus Cordis .....	1	1
Tonsillitis, &c. ....	4	—
Enteritis, &c. ....	7	—
Febricula .....	27	—
Unclassified .....	13	—
	<u>113</u>	<u>20</u>

# CITY HOSPITAL SOUTH, GRAFTON STREET.

Visiting Physician, Dr. ROBERTS.

Resident Physician, Dr. BLAKEMAN.

DISEASES.	Remaining in Hospital 31st Dec., 1896.	Admitted during 1897.	Total under treatment 1897.	Died during 1897.	Discharged to homes 1897.	Transferred to Parkhill Convalescent 1897.	Transferred to other Hos- pitals 1897.	Remaining in Hospital 31st Dec. 1897.	Mortality per cent. of Admissions.
Scarlet Fever . . . . .	37	485	522	*29	115	339	1	38	5.9
Enteric Fever . . . . .	20	169	189	†17	140	1	2	29	10.0
Typhus Fever . . . . .	—	19	19	3	6	5	5	—	15.7
Diphtheria . . . . .	7	78	85	15	41	19	—	10	19.2
Measles . . . . .	—	3	3	—	3	—	—	—	—
Other Diseases . . . . .	—	33	33	‡10	18	4	1	—	30.3
Totals . . . . .	64	787	851	74	323	368	9	77	9.4

\* Three patients suffering from Scarlet Fever died in less than 24 hours of admission.

† Two patients suffering from Enteric Fever died in less than 24 hours of admission.

‡ One patient suffering from Broncho-Pneumonia died in less than 24 hours of admission.

## SCARLET FEVER.

	AGE PERIODS.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	Total.
No. of cases . . . . .	221	164	79	15	5	1	—	485
No. of deaths . . . . .	20	6	3	—	—	—	—	29
Percentage of deaths	9.0	3.6	3.7	—	—	—	—	5.9

## TYPHUS FEVER.

	AGE PERIODS.							
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	Total.
No. of cases . . . . .	1	1	8	6	1	—	2	19
No. of deaths . . . . .	—	—	—	1	—	—	2	3
Percentage of deaths	—	—	—	16.6	—	—	100	15.7

## ENTERIC FEVER.

	AGE PERIODS.							TOTAL.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	
No. of cases . . . . .	16	31	49	41	24	5	3	169
No. of deaths . . . . .	1	2	3	6	5	..	..	17
Percentage of deaths	6·2	6·4	6·1	14·6	20·8	..	..	10·0

## DIPHTHERIA.

	AGE PERIODS.							TOTAL.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	
No. of cases . . . . .	46	17	7	4	3	1	..	78
No. of deaths . . . . .	14	1	..	..	..	..	..	15
Percentage of deaths .	30·4	5·8	..	..	..	..	..	19·2

## OTHER DISEASES.

	Cases.	Deaths.
Broncho Pneumonia . . . . .	5	3
Pneumonia .. . . .	4	2
Febricula . . . . .	10	—
Bronchitis . . . . .	4	—
Delirium Tremens . . . . .	1	—
Phthisis . . . . .	4	3
Mitral Disease . . . . .	1	1
Intermittent Fever . . . . .	1	—
Melancholia . . . . .	1	—
Meningitis . . . . .	1	1
Erysipelas . . . . .	1	—
Total .. .. .	33	10=30·3 per cent.



# CITY HOSPITAL, PARKHILL.

*Visiting Physician, Dr. ROBERTS.*

*Resident Physician, Dr. KENNAN.*

DISEASES.	Remaining in Hospital on December 31st, 1896.		Patients admitted during 1897.					Remaining in Hospital on 31st December, 1897.	Total number under treatment during 1897	Fatal Acute Cases.		Fatal Transferred Cases.	
	Acute.	Transferred.	Acute Cases	From City Hospital North.	From City Hospital South.	From City Hospital East.	From City Hospital, Priory Road			Number.	Percentage	Number.	Percentage.
Scarlet Fever . . . .	80	94	373	285	339	7	21	119	1199	25	6·7	5	·7
Smallpox . . . . .	2	—	6	—	—	—	—	—	8	—	—	—	—
Enteric Fever . . . .	—	—	48	—	1	—	—	8	49	5	10·4	—	—
Diphtheria . . . . .	—	—	20	—	19	—	—	6	39	3	15·0	—	—
Typhus Fever . . . .	—	—	1	21	5	—	—	—	27	—	—	—	—
Measles . . . . .	—	—	7	2	—	—	—	—	9	—	—	—	—
Other Diseases . . . .	3	—	24	—	4	—	—	4	31	5	20·8	—	—
Total . . . . .	85	94	479	308	368	7	21	137	1362	38	7·9	5	·7

## ACUTE SCARLET FEVER.

	AGE PERIODS.						TOTAL.
	Under 5	5—10	10—20	20—30	30—40	40 Upwards	
No. of cases . . . . .	124	155	75	15	3	1	373
No. of deaths . . . . .	18	7	—	—	—	—	25
Percentage of deaths . .	14·5	4·5	—	—	—	—	6·7

OTHER ACUTE DISEASES.

Diseases.							No. of Cases.	No. of Deaths.	
Dysentery .. .. .	..	..	..	..	..	..	4	..	2
Varicella .. .. .	..	..	..	..	..	..	1	..	—
Malaise .. .. .	..	..	..	..	..	..	1	..	—
Meningitis .. .. .	..	..	..	..	..	..	2	..	2
Pneumonia .. .. .	..	..	..	..	..	..	4	..	1
Malaria .. .. .	..	..	..	..	..	..	1	..	—
Syphilis Tertiary ..	..	..	..	..	..	..	1	..	—
Influenza .. .. .	..	..	..	..	..	..	3	..	—
Unclassified .. .. .	..	..	..	..	..	..	7	..	—
Total .. .. .							24		5

CITY HOSPITAL EAST (MILL LANE).

Visiting Physician, Dr. RICHARDSON.

DISEASES.	Remaining in Hospital 31st Dec., 1896.	Admitted into Hospital during 1897.	Total under treatment during 1897.	Died during 1897.	Discharged to homes 1897.	Transferred to Parkhill Con- valescent, 1897.	Transferred to other Hospitals 1897.	Remaining in Hospital, 31st Dec., 1897.	Mortality % of admissions.
Scarlet Fever .. ..	27	157	184	9	147	7	..	21	5·7
Typhoid Fever .. ..	11	46	57	7	47	..	..	3	15·2
Other Diseases .. ..	..	18	18	4	13	..	1	..	22·2
TOTALS .. .. .	38	221	259	20	207	7	1	24	9·0

SCARLET FEVER.

	AGE PERIODS.							
	Under5	5—10	10—20	20—30	30—40	40—50	50 Upwards	TOTAL.
No. of cases .. ..	52	51	41	9	2	2	..	157
No. of deaths.. ..	6	3	..	..	..	..	..	9
Percentage of deaths.	11·5	5·8	..	..	..	..	..	5·7

TYPHOID FEVER.

	AGE PERIODS.							
	Under5	5—10	10—20	20—30	30—40	40—50	50 Upwards	TOTAL.
No. of cases .. ..	1	10	17	7	7	3	1	46
No. of deaths . . .	..	..	2	1	3	..	1	7
Percentage of deaths.	..	..	11·7	14·2	42·8	..	100	15·2

OTHER DISEASES.

	Cases.		Deaths.	
Influenza and Bronchitis .. ..	1	..	—	
Pneumonia .. ..	2	..	—	
Broncho-Pneumonia .. ..	2	..	1	
Bronchitis .. ..	1	..	—	
Pleuro-Pneumonia and Heart Disease .. ..	1	..	1	
Catarrh .. ..	1	..	—	
Gastric Catarrh .. ..	4	..	—	
Continued Fever .. ..	1	..	—	
Varicella .. ..	1	..	—	
Rheumatism .. ..	1	..	—	
Delirium Tremens .. ..	2	..	1	
Phthisis .. ..	1	..	1	
Total .. ..	18		4	22·2



CITY HOSPITAL, PRIORY ROAD.

*Visiting Physician, Dr. ARCHER.*

DISEASES.	Remaining in Hospital, Dec. 31st, 1896.	Admitted during 1897.	Total under treatment 1897.	Died during 1897.	Discharged to homes.	Transferred to Parkhill Convalescent.	Transferred to other Hospitals.	Remaining in Hospital, Dec. 31st, 1897.	Mortality per cent of admissions.
Scarlet Fever .. ..	33	197	230	13	173	21	..	23	6·6
Other Diseases .. ..	..	8	8	*1	3	..	4	..	12·5
TOTALS .. ..	33	205	238	14	176	21	4	23	6·8

\* NOTE.—This case was admitted suffering from extensive burns, of which it died.

SCARLET FEVER.

	AGE PERIODS.					
	Under 5	5—10	10—20	20—30	30—40	TOTAL.
No. of cases .. ..	77	82	32	3	3	197
No. of deaths .. ..	12	1	—	—	—	13
Percentage of deaths .. ..	15·5	1·2	—	—	—	6·6

OTHER DISEASES.

Typhus Fever .. ..	1	..	Sent to Netherfield Road Hospital.
Follicular Tonsillitis ..	5	..	<div style="display: inline-block; vertical-align: middle; font-size: 3em; line-height: 1;">{</div> <div style="display: inline-block; vertical-align: middle;">           Threc of these cases were kept and isolated as well as we could, there being a distinct history of scarlatina previously.            Two were sent to Parkhill Hospital.         </div>
Measles .. ..	1	..	
Extensive Burns .. ..	1	..	<div style="display: inline-block; vertical-align: middle; font-size: 3em; line-height: 1;">{</div> <div style="display: inline-block; vertical-align: middle;"> <i>Died.</i>—This case was sent in from the Children's Infirmary, supposed to be suffering from scarlatina. —The eruption was really surgical erythema, and the child was too weak to be removed again.         </div>
Total .. ..	8		

RATE OF MORTALITY AMONGST PATIENTS TREATED AT HOME AND  
PATIENTS TREATED IN THE CITY OF LIVERPOOL FEVER HOSPITALS.

HOME MORTALITY.

Year.	Disease.	Cases.	Deaths.	Per cent.
1891	Typhoid Fever	303	63	20·7
1892		443	77	17·3
1893		956	171	17·8
1894		878	176	20·0
1895		771	129	16·7
1896		595	114	19·1
1897		591	96	16·2
1891	Scarlet Fever	728	85	11·6
1892		953	89	9·3
1893		2,158	149	6·9
1894		2,548	152	6·0
1895		1,671	97	5·8
1896		1,984	120	6·0
1897		1,320	89	6·7

HOSPITAL MORTALITY.

Year.	Disease.	Cases.	Deaths.	Per cent.
1891	Typhoid Fever	283	26	9·1
1892		236	34	14·4
1893		431	50	11·5
1894		441	72	16·3
1895		481	68	14·1
1896		468	52	11·1
1897		400	49	12·2
1891	Scarlet Fever	546	33	6·0
1892		633	36	5·6
1893		1,391	74	5·3
1894		1,468	80	5·4
1895		1,039	72	6·9
1896		1,600	97	6·0
1897		1,681	120	7·1

Attention must be called to the number of instances in which patients are removed to hospital at late stages of the disease. The cause of this

appears to be that relatives and friends are anxious at the commencement of an illness to nurse the patient themselves. They soon find, however, that they have not the requisite skill nor requisite facilities. They become worn out, the patient suffers from inattention, and an illness which under proper treatment in hospital may have been relatively slight becomes very serious. Finally, the friends are compelled to abandon the attempt to continue to nurse the patient, who is consequently removed to hospital under circumstances most unfavourable to his recovery. Early removal to hospital is most necessary in the interests of the patient and all concerned, and this fact cannot be too strongly emphasised.

The Committee have provided at each one of the City Hospitals a supply of Antitoxin, which is given to any medical practitioner making application for it.

E. W. HOPE, M.D., D.Sc.,  
MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH DEPARTMENT,  
MUNICIPAL OFFICES,  
LIVERPOOL, 24th March, 1898.





DURING THE YEAR 1897, IN THE URBAN SANITARY DISTRICT OF LIVERPOOL, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

(I.) NAMES OF LOCALITIES adopted for the purpose of these Statistics; public institutions being shown as separate localities.  DISTRICTS AND WARDS.  (a.)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																						
	At all Ages.  (b.)	Under 1 Year.  (c.)	1 and under 5.  (d.)	5 and under 15.  (e.)	15 and under 25.  (f.)	25 and under 60.  (g.)	60 and upwards.  (h.)	(i.)	1.	2.	3.	4.	Fevers.					10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
									Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	English Cholera and Cholera Infantum.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Influenza.	Injuries.	All Other Diseases.	Total.
Scotland .. .. .	1297	475	260	45	46	337	134	Under 5 5 upwards	.. ..	2 4	1 1	7 ..	.. 1	1 7	.. ..	.. ..	.. 1	7 2	1 ..	36 ..	39 1	160 10	.. 3	3 72	145 178	.. 59	1 3	44 38	288 182	735 562
Exchange .. .. .	970	348	188	25	25	252	132	Under 5 5 upwards	.. ..	2 1	2 2	2 2	.. ..	.. 2	.. ..	.. 2	.. ..	.. ..	2 2	27 1	14 ..	108 5	.. 1	.. 48	126 124	1 57	.. 3	33 32	219 152	536 434
Abercromby .. .. .	895	233	159	36	25	262	180	Under 5 5 upwards	.. ..	2 ..	1 1	.. ..	.. ..	.. 2	.. ..	.. 2	1 1	1 3	41 3	21 3	60 6	.. 3	3 49	76 116	.. 48	1 5	15 32	170 231	392 503	
Everton .. .. .	2350	902	455	79	74	507	333	Under 5 5 upwards	.. ..	13 ..	8 2	11 1	.. ..	2 9	.. ..	.. 5	10 ..	.. ..	62 4	65 1	345 15	.. 6	7 123	259 264	.. 112	1 4	35 34	539 413	1357 993	
Kirkdale .. .. .	1224	457	199	47	44	313	164	Under 5 5 upwards	.. ..	4 3	6 ..	2 1	.. ..	.. 9	.. 1	.. 6	7 ..	1 ..	29 ..	47 2	162 11	1 1	1 74	114 133	2 67	.. 7	14 22	266 231	656 568	
West Derby .. .. .	1505	557	269	50	46	349	234	Under 5 5 upwards	.. ..	4 4	10 4	1 ..	.. ..	1 7	2 ..	.. 4	3 ..	42 2	52 ..	180 6	.. 6	4 130	136 125	.. 82	3 4	27 15	361 286	826 679		
Toxteth .. .. .	1987	712	386	89	56	438	306	Under 5 5 upwards	.. ..	25 10	15 2	1 1	.. ..	.. 10	2 ..	.. ..	3 ..	2 3	55 2	61 ..	197 7	1 11	8 110	204 213	.. 91	4 13	37 34	483 382	1098 889	
Walton .. .. .	641	230	90	23	24	154	120	Under 5 5 upwards	.. ..	3 2	.. 1	3 ..	.. ..	.. 9	.. ..	.. 1	14 ..	1 2	6 ..	17 ..	67 1	.. 3	2 45	44 58	.. 34	.. 4	10 11	153 150	320 321	
West Derby (Rural) .. .. .	585	180	60	27	12	143	163	Under 5 5 upwards	.. ..	1 3	2 1	1 ..	.. ..	.. 2	.. ..	.. 1	5 1	9 2	8 2	54 4	.. 6	1 30	44 55	.. 46	.. 4	3 15	112 173	249 345		
Wavertree .. .. .	224	77	39	10	8	44	46	Under 5 5 upwards	.. ..	4 ..	2 1	1 ..	.. ..	.. ..	.. ..	.. ..	1 ..	8 ..	5 ..	17 ..	.. 1	.. 17	21 18	.. 13	1 ..	.. 2	56 56	116 108		
Toxteth (Rural) .. .. .	308	91	26	15	12	91	73	Under 5 5 upwards	.. ..	.. 1	3 3	.. ..	.. ..	.. 6	.. ..	.. 1	2 ..	1 ..	6 1	21 2	.. 2	.. 29	18 29	.. 16	.. 1	4 ..	62 100	117 191		
(II.) Public Institutions. } Workhouses & Hospitals ..	3604	226	353	197	209	1660	959	Under 5 5 upwards	.. ..	92 29	14 9	.. ..	1 21	.. 78	.. ..	.. 2	.. ..	17 3	9 ..	25 30	.. 5	8 456	109 496	1 367	.. 6	41 207	262 1314	579 3025		
Totals .. .. .	15590	4488	2484	643	581	4550	2844	Under 5 5 upwards	.. ..	152 57	64 27	29 5	1 22	4 141	4 1	.. 25	53 4	9 17	332 12	344 12	1396 97	2 43	37 1183	1296 1809	4 992	11 54	263 442	2971 3670	6972 8618	

Deaths occurring outside the division or district among persons belonging thereto .. ..	..	..	..	..	..	..	..	Under 5 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deaths occurring within the division or district among persons not belonging thereto .. ..	473	33	29	13	43	213	142	Under 5 5 upwards	..	..	..	..	..	..	5	..	..	..	..	..	2	..	2	..	1	18	..	..	39	62	411







# TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS

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coming to the knowledge of the Medical Officer of Health, during the year 1897, in the Urban Sanitary District of Liverpool; classified according to DISEASES and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  DISTRICTS AND WARDS.  (a.)	POPULATION AT ALL AGES		Registered Births.  (d.)	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.											NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITALS.										
	Census, 1891.  (b.)	Estimated to Middle of 1897.  (c.)		1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11
				Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					Cholera.	Erysipelas.
								Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.							Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.		
Scotland .. .. .	53713	45275	2122	..	131	12	7	93	149	10	..	11	..	171	..	86	2	..	90	73	7	..	..	..	..
Exchange .. .. .	47738	37518	1381	3	82	12	3	10	64	7	..	1	..	157	3	64	4	..	10	40	6	..	..	..	..
Abercromby .. .. .	55530	49403	1711	..	203	20	4	2	69	4	..	3	..	130	..	103	6	1	2	19	2	..	..	..	..
Everton (H) .. .. .	110556	110713	4441	..	413	49	22	27	158	15	1	12	..	186	..	266	17	..	27	55	9	..	..	..	..
Kirkdale .. .. .	66131	68266	2423	..	234	33	6	8	92	9	..	8	..	103	..	89	9	..	8	24	2	..	..	..	..
West Derby .. .. .	76971	79438	3040	1	451	83	5	16	108	15	..	9	..	109	1	251	26	1	16	31	4	..	..	..	..
Toxteth (H H) .. .. .	107341	106892	3527	..	802	59	7	1	147	7	..	5	..	248	..	483	17	1	1	71	1	..	..	..	..
Walton (H) .. .. .	40304	58498	1552	1	236	28	1	..	84	3	..	5	..	40	1	69	2	..	..	32	1	..	..	..	..
West Derby (Rural) (H) .. .. .	36349	39596	991	..	193	12	1	..	54	1	..	4	..	33	..	104	3	..	..	13	..	..	..	..	..
Wavertree .. .. .	13764	15770	451	..	66	14	3	..	9	3	..	..	..	9	..	39	2	1	..	4	..	..	..	..	..
Toxteth (Rural) .. .. .	21046	32760	641	..	126	42	1	..	24	2	..	2	..	19	..	31	8	..	..	1	..	..	..	..	..
Public Institutions, } Workhouses and Hospitals..	..	..	..	..	61	4	..	1	10	2	..	..	..	61	..	54	2	..	1	..	..	..	..	..	..
Emigrants, Seamen, &c., passing through the City .. .. .	..	..	..	1	3	2	..	..	23	..	..	..	..	4	1	2	1	..	..	21	..	..	..	..	..
TOTALS .. .. .	629443	644129	22280	6	3001	370	60	158	991	78	1	60	..	1270	6	1641	99	4	155	384	32	..	..	..	..

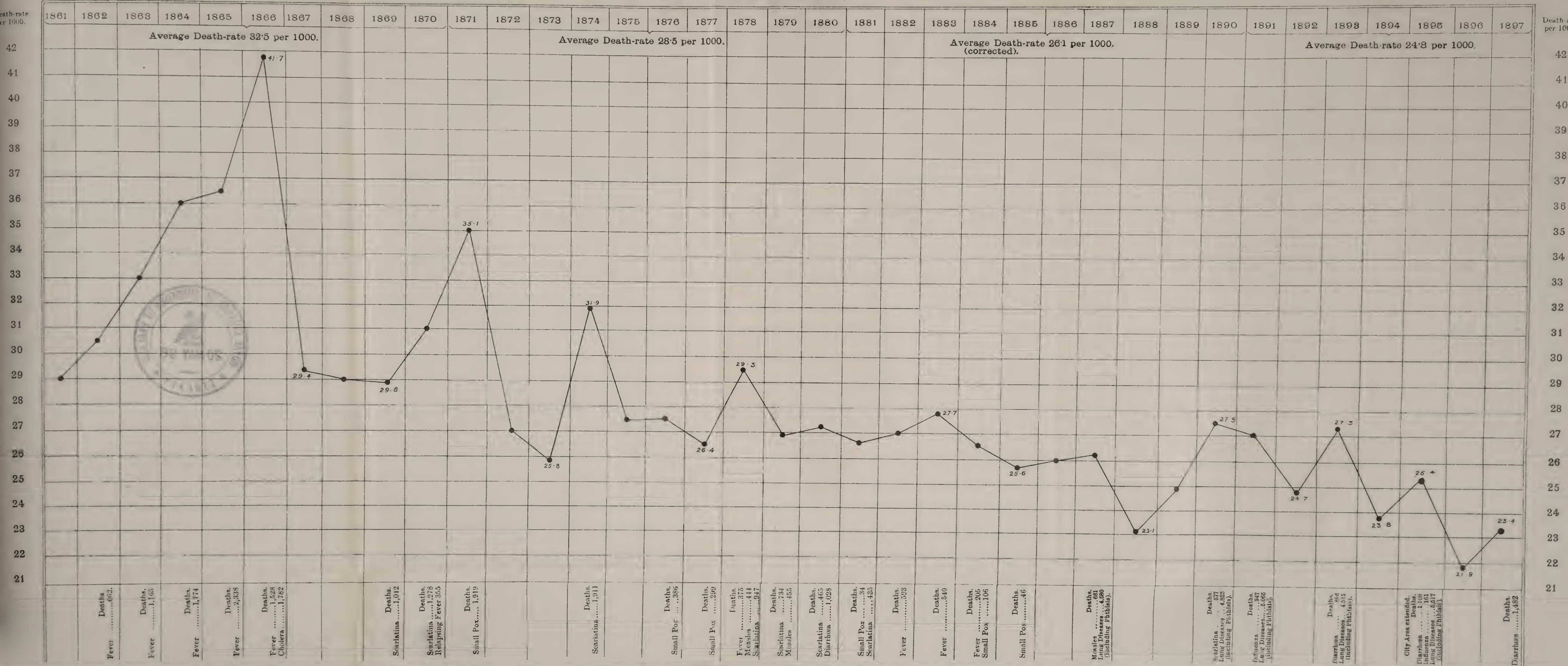
Notification of Infectious Disease compulsory in the District since 1st September, 1890.

(H) The localities in which the Isolation Hospitals are situated.





## CITY OF LIVERPOOL.

Death-rate  
per 1000.Death-rate  
per 1000.



# CITY OF

1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900

Average Death-rate 23.5 per 1000



1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900



DURING THE YEAR ENDING SATURDAY, 1<sup>ST</sup> JANUARY, 1898.

INQUIRY.







# PHILIPS' NEW PLAN OF GREATER LIVERPOOL

Indicating Districts referred to in Report.

SCALE OF ONE MILE

The Map is divided into half-mile squares.



## DISTRICTS.

1. SCOTLAND
2. EXCHANGE
3. ABERCROMBY
4. EVERTON
5. KIRKDALE
6. WEST DERBY
7. TOXTETH
8. WALTON
9. WEST DERBY (RURAL)
10. WAVERTREE
11. TOXTETH (RURAL)

R I V E R M E R S E Y



